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## EDITORIAL NOTES.

At the time of writing, no bills harmfully modifying our medical practice act or seriously menacing public health have been introduced, though, if one may judge at all by the history of past legislatures, some bills of this class will be introduced ere long. Two bills have been introduced at the suggestion of the attorney for the Board of Medical Examiners. One of them increases the limit of fine and imprisonment for practicing without a license; the purpose of this is to permit the cases of misdemeanor under charge of violating this section of the law to be tried in a Superior Court and not in a police court. It is almost impossible to obtain a verdict, no matter how conclusive the evidence may be, for practicing without a license if the case is tried in a police court. In San Francisco, recently, a number of such cases were tried and a verdict of acquittal given when the evidence was absolutely conclusive. The other bill makes it a misdemeanor for any licensed physician to practice medicine under any name other than that in which his license is issued and requires all companies, associations, institutions, etc., to file with the Board of Examiners, and to post conspicuously in their place of business, a list of all licensed physicians who are employed by them to treat the sick or afflicted. This measure is being urged with the belief that it will make it possible to get rid of some of the abortionists who hide under assumed names and also to curtail the activities of some of the advertising "medical" companies that do such a thriving quack business. How much may be accomplished by this latter measure remains to be seen but in all probability it will

help somewhat in the work of cleaning out the quacks. Doubtless other bills having more or less bearing upon the practice of medicine will be introduced. There are three physicians in the legislature. Dr. J. L. Avey, of Redlands, is in the Senate, and in the Assembly there are Dr. E. M. Butler, of Los Angeles and Dr. D. W. Mott of Santa Paula. Mr. John F. Beckett, a brother of Dr. W. W. Beckett of Los Angeles, is also in the Assembly. The committees in the Senate and Assembly to which all bills affecting public health or medical laws will be referred, are as follows:

Senate—Public Health and Quarantine: Senators Regan (chairman), Roseberry, Stetson, Beban and Holohan.

Assembly—Medical and Dental Laws: Messrs. Hinshaw (chairman), Butler, Denegri, Malone, Rogers of Alameda, Flint, Brown, Gerdes and Bliss.

A correspondent writes to the JOURNAL in most emphatic terms deploring the election of Judge Works to the United States Senate. **EDDYITE DOINGS.** He objects because Works is an eddyite, and it appears as though there were a movement on foot to place a number of eddyite followers in our legislative halls and thus influence legislation. He also objects because Works is a "reader" in a "Church of Christ Scientist"—and that use of the word "scientist," well, a red rag is more pacifying to a slightly nervous bull. But our correspondent forgets. Works is only a figment of his own imagination; to that figment there is no Senate, it is only an idea; he can not do anything about legislation, because there is no such thing as legislation, that too being a mere idea; to think it is "error." It is quite useless to get worked up over this passing delusion; you cannot fight un-reason with logic; you can neither legislate nor club common sense into anyone. These people do not know what they are saying; they cannot argue; they cannot discuss anything logically; they can only repeat, parrot-like, the meaningless words that some other person has jumbled together. Cultivate a sense of humor and let the delusion wear itself out. We can have faith without "Works."

The President, Mr. Taft, in his message to the Congress, makes the following statement in regard to public health legislation: "In my message of last year I recommended the creation of a Bureau of Health, in which should be embraced all those government agencies outside of the War and Navy departments which are now directed toward the preservation of public health or exercise functions germane to that subject. I renew this recommendation." That should silence a good deal of adverse talk; but it will not. The "League for medical freedom" will go right on stirring up all the opposition to such a bureau or department that it possibly can. It will also stir up opposition to all public health measures in the various states and do everything it can to break down just laws and regulations dealing with health conditions. Senator Owen, who introduced the bill which started all the trouble, says, speaking of this "medical freedom"

fake: "This argument is undoubtedly made by the patent medicine men who are engaged in promoting drug habits in the United States for the base purpose of making money, and dread governmental interference."

Differential pressure is still the all-absorbing problem of thoracic surgery. If this question is satisfactorily solved and a small, convenient, ever-ready apparatus evolved, the technic of surgery of the thoracic cavity will make rapid strides. A year ago the JOURNAL said, editorially, that the Meltzer-Auer method was certainly the most important contribution to the subject which had appeared and recent work with this apparatus by different experimenters, both in Europe and in this country, would seem to strengthen this view. It has been claimed by many who have argued against intubating the trachea almost to its bifurcation, that injury of this structure would be almost certain to result and that infection of the lungs could easily occur. Such, however, has not happened in the few human cases which up to the present time have been operated upon by this method. The work upon animals has demonstrated clearly that these difficulties are not encountered, although tracheal infections are common in distemper, and Meltzer has lately shown that a true pneumonia may be readily caused in dogs. Quinby recently passed a tracheal tube which was known to be septic and infection of the lungs quickly followed. The air passages of the dog are more prone to infection than has generally been considered. But most observers seem to lose sight of the fact that emphysema may very easily be caused by the Meltzer-Auer method and even perforation of the lung may result in small animals from too great a pressure. It is most important that the pressure at all times be carefully observed and regulated. To the operator the fact that with this method the lungs are practically at rest is a most important feature. In Tiegel's latest work upon the bronchus he notes that heavy respiration has occurred frequently with the use of his face mask, and that this has seriously interfered with his technical work. He has been obliged to adopt the method of Volhard, which consists in a high intubation of the trachea, in order to obviate this difficulty.

The writer recently stated that the new positive pressure cabinet of Janeway and Green in which, by means of an ingenious valve, the air is raised to a pressure of plus ten and rapidly lowered to normal, thus causing the patient to breathe artificially, possessed great merit. Besides inhibiting the movements of the chest wall, thus making the operative work much easier, it does away with the carbon dioxide retention which is such a drawback to most forms of differential pressure apparatus. This statement was promptly controverted by others, and yet the most severe critic of the Meltzer-Auer method, Willy Meyer, now believes that an occasional deflation of the lungs, a change in differential in his cabinet, is necessary in order to get rid of the increased carbon dioxide and that un-

doubtedly the shock which occurs in long operations is due partly at least to this accumulation.

The Meltzer-Auer method has so broadened our horizon that it is not too much to say that a practical solution of this most important problem will soon be made. R. R.

Why, do you suppose, any manufacturer pays this Society good money for space in your JOURNAL in

#### ADVERTISING ONCE MORE.

order to set forth the merits of his goods? Do you think it is just a way he has of getting rid of his superfluous money, or do you regard him as a peripatetic philanthropist? He is not. He has something that you may need, that it may be to your advantage to know about and that he hopes he may sell to you. It is distinctly to your advantage to read the advertising pages of your JOURNAL and to see what things are there offered to you; it is a little difficult, in this world, at least, to know too much and you might as well know all you can—especially when it does not cost you any more. Everything advertised in this JOURNAL is honest and exactly as represented. Look through the advertising pages and see what is there; do it every month. When you buy from an advertiser, let him know that you are a member of the Society and that you know he advertises in your own JOURNAL. It will not hurt you a bit; it will make him feel better and it will help your JOURNAL.

It is singular how people who wish to sell things to eat or drink seem to have the delusion that the particular thing they wish to sell has most wonderful therapeutic value! Food stuffs of the most simple composition become wonderful remedies in the expert hands of the advertisement writer; even water can become a cure-all.

#### CURIOUS DELUSIONS.

"Electric White Diamond Water" seems to be just ordinary water that has had some electricity shot through it. "Ozone is formed in the water. . . . Ozone is the greatest sterilizer known"; and therefore, of course, "electric white diamond water" becomes a wonderful remedy. "It is the only water in the world which has a decided and beneficial effect on the human system." That is certainly a modest and retiring statement, though it sounds more like the language of an "adsmith" than of a scientist. But just absorb this and then rush wildly about until you find some "e. w. d. water": "The electrical action which this water undergoes makes it radio-active, and as such it cannot fail to alleviate all stomach troubles however acute or chronic they may be." Gastro-enterostomy will soon be regarded as a tradition of the early barbaric days—the days before mankind had been blessed with "Electric White Diamond Water"—at four bits a bottle!

The vexing problem of the abuse of medical charity, or the "dispensary evil" has grown lustily for a generation. It became so bad in New York that in 1898 the Dispensary Law was passed and all dispensaries required to be licensed by the State Board of Charities. This has only partly

corrected the evil. In all large cities the problem has grown to proportions that are appalling when one comes to try and solve it. In Chicago it is estimated after some little investigation, that an equivalent of not less than three and one-half millions of dollars in gratuitous services go to those who are economically quite able to pay reasonable doctor's fees. In many instances it was found that dispensary patients were property owners and quite well to do. A committee of the Chicago Medical Society has been investigating the matter for some time past and has at last evolved a plan for careful investigation of all applicants and for co-operation among all dispensaries that, if properly supported by the medical profession of that city, should go far to curtail the evil. We shall watch the working out of this Chicago plan with much interest, for doubtless the "dispensary evil" is quite as much of a vexatious problem in San Francisco and Los Angeles, relatively, as it is in Chicago. In his annual report, last April, the Chairman of the Council of the State Society, Dr. C. G. Kenyon, gave it as his opinion that no person, rich or poor, need pay for medical or surgical treatment in San Francisco, unless he wanted to do so.

*Collier's Weekly* was one of the first publications in this country to assume a reasonable responsibility for the advertisements which it publishes. In 1905 it threw out the advertisements of 50,000 C. W. Post who was exploiting his DOLLARS. "postum cereal" and "grape nuts" in a way to deceive the public into the belief that these very ordinary food-stuffs possessed medicinal properties. One advertisement read "No appendicitis for those who use grape-nuts." Later, *Collier's* exposed this postum fraud in no unmeasured words and in retaliation the postum folks published an advertisement in 44 papers in New York State in which, referring to *Collier's*, they said "When a journal wilfully prostitutes its columns to try and harm a reputable manufacturer . . ." Collier brought suit and on December 3rd, 1910, was given a verdict of \$50,000 for this libel. Good work. There is another suit pending and we hope that Collier may get another fifty-thousand dollar verdict. The amount of harm that people like Post do, is incalculable; it is fraud of the very worst kind and has been only partially stopped by the Food and Drugs Act. In its issue for December 24th, *Collier's* has a very interesting account of the whole episode which closes with the plain but very clear and intelligible statement: "C. W. Post is a faker. There's a verdict."

Some of the magazines seem to have gone far afield looking for things to become hysterically indignant about; one would almost be inclined to think that not MISPLACED SYMPATHY. enough muck existed for all the rakes and all the rakers. One periodical has published some articles on the subject of our soldiers and what a terrible life they are forced to live! It is almost enough to make tears come to the eyes of a down-East melodramatic step-mother to read that the poor, darling soldier-boys

actually have to work in stables and in kitchens and places like that! It is simply awful to contemplate the anguish which a cavalry soldier must suffer when he has to clean out his horse's stall and curry him; such menial tasks to impose upon a free-born American citizen who has enlisted to fight for his country-c-e-e. Oh! Sis!

### MARVELOUS BACTERIOLOGY.

During the past few years attempts have been made to bring about a closer relationship between the medical and pharmaceutical professions, with a fair measure of success, and it is not at all uncommon to see pharmacists and expert chemists contributing to our various medical journals. The dental profession has likewise, occasionally furnished articles on the care of the mouth, or on oral surgery. It is unfortunate that the dental and medical professions do not come into closer scientific contact. They could work out many problems together, and it is certain that both would greatly benefit by such collaboration. In spite of the fact that dental students are given a course in bacteriology, it is amazing how little knowledge of the subject the average dentist possesses. It is still more terrible to think that a person absolutely untrained in such a subject, should be allowed to pose as a bacteriological wonder before his fellow-men. It would be far wiser to invite a few physicians to attend dental gatherings when border-line subjects are up for discussion. If this were done, statements, such as were made in the leading article of the January number of the *Pacific Dental Gazette*, would not be published, and those who attended the June meeting of the Southern California Dental Association would not have been so "bluffed" as their discussion proves they were. The following are but a few of the wonderful assertions to be extracted from "Some Thought on the Etiology of Pyorrhea Alveolaris" and its discussion:

"I might say that my observations have led me to wonder if the presence of tuberculous matter in the blood might not be accounted for in the following way: We know that nearly, if not every one, has nowadays more or less syphilitic spores in the blood. Now we know that everything that has form has a beginning, growth and an end, and may it not be possible that these spores also have a period of activity and then change into inactive nodules? The geometrically arranged nodules in tuberculous matter appears to be of the same general size and appearance as the spores, and are, to all appearances inactive. I do not attempt to state that such is the case, but I do state that I have always found these spores in the same blood where I have found tuberculous matter.



Also I find within the active leucocytes not only the spores but what appears very much like tuberculous nodules. Using this theory as an hypothesis to base our observations on, and knowing that where the vitality is low from autotoxemia, that the leucocytes are in a degree inactive, something must happen on account of the multiplication of the spores. If the spores do become inactive after their cycle of activity has closed, what becomes of them? Has anyone as yet discovered an answer to this question? May it not be possible that they do become tuberculous matter? And by its accumulation in the blood may find lodgment in the finer blood vessels or lymphatic ganglions? May not this condition in time produce tuberculosis? I have found it often in the blood of pyorrhea patients; I find also that such patients are people who worry a great deal, and have the emotions very much accentuated. I find that by keeping the bowels moving twice daily for some time, thus clearing the blood-stream of toxins, that the leucocytes become active, that both the spores and tuberculosis matter, in degree, disappear. So I take it from the above basis that, if people let their minds run riot with their feelings, they will cause thereby constipation, autotoxemia, inhibition of the function of the leucocytes. This will allow the tuberculous matter to increase, and such people must, sooner or later, suffer for their own carelessness of mental action."

"The dentist who will provide himself with a first-class, high-power microscope, and learn how to use it in fresh blood analysis, in order to obtain the opsonic index of the blood will marvel that he did not do it sooner."

"The microscope also shows the stage anemia; the vital energy is shown by the shape and quality of red cells, whether they have energy enough to stand out singly and move about freely in the currents of the plasm, or whether they are deficient in quantity, and lean against each other for support in bunches of rows, like rows of coin, having little or no motion."

" . . . in the case of syphilitic spores, these can be seen within the leucocytes rushing from side to side vainly trying to find a way out. . . ."

"I will be very brief, Mr. President. I want to congratulate this society on having a man with such marked ability. I have enjoyed this paper as nothing I have heard in years, and I hope we can have this published, if possible, in pamphlet form, so we can put it in our pockets and carry it back and forth on the cars, in order that we may become thoroughly familiar with it. I should like to read it five or six times, and then I would begin to think about it."

"While sitting back here, I thought of this paper as one that should be read before the National Dental Association. We are to be congratulated upon having such a man as Dr. A. in our association." R. B.

## ORIGINAL ARTICLES

### HYPERCHLORHYDRIA.\*

By WILLIAM FITCH CHENEY, M. D., San Francisco.

This paper is based upon the observation of 318 cases in which hyperchlorhydria existed, as proved by stomach analysis. These were seen partly in the dispensary service at Cooper Medical College, between January 1, 1900, and January 1, 1909; and partly in private practice, between April 18, 1906, and January 1, 1910. The records of all these cases have been reviewed in the preparation of this paper.

**Definition.** By hyperchlorhydria is meant that condition in which the stomach contents show an abnormally high percentage of hydrochloric acid. But it has been proved by the experiments of Bickel<sup>1</sup> that with the hyperacidity there occurs also a hypersecretion—that the change in the juice is one not only of quality but also of quantity. Ordinarily this hypersecretion takes place only so long as food is present in the stomach and ceases as the stomach is emptied. It is only in certain rare cases originally described by Reichman, that continuous hypersecretion occurs, which goes on even during the intervals of digestion in the fasting stomach. With such cases the term hyperchlorhydria as commonly used has nothing to do. Furthermore, there is no object in attempting to distinguish between hypersecretion and hyperacidity in ordinary cases, and in this paper the two are understood to co-exist when hyperchlorhydria is mentioned.<sup>2</sup>

**Recognition.** The evidences of hyperchlorhydria are both subjective and objective. The *subjective* signs are quite characteristic. The patient has an excellent appetite or even an abnormal craving for food. The taking of a meal satisfies this and gives comfort for a time, but at a varying interval afterwards, averaging about two hours, distress begins. This distress is usually described as a burning feeling over the stomach or higher up in the chest, popularly known as "heart burn." There is no actual pain in simple hyperchlorhydria, though the stomach region usually feels tender and sore, and pressure even of the clothing may be uncomfortable. Accompanying this burning distress there is belching of gas; eructations occur of mouthfuls of sour fluid—the symptoms known as "water-brash"; nausea is frequent and at the height of the distress vomiting not uncommonly takes place, the vomitus being very sour, acrid and irritating. This vomiting relieves the situation until food is taken again. If vomiting does not occur, the suffering usually persists until the next meal, which removes the symptoms temporarily; but after an hour or two they all recur, and so the cycle goes on. With the constant repetition of these discomforts the patient naturally grows very irritable, peevish and disagreeable in temper. The bowels are usually obstinately constipated. There is no loss of weight of any consequence, unless the patient abstains from food be-

\* Read at the Fortieth Annual Meeting of the State Society, Sacramento, April, 1910.

<sup>1</sup> Deutsche Med. Wochenschrift, Nov. 30, 1907, S. 1201.

<sup>2</sup> In a recent monograph on "Dyspepsia" by Fenwick, he expresses the view that hyperchlorhydria at first occurs without hypersecretion; but if long continued, hypersecretion results, at first only at the time of digestion, ultimately even during the intervals of digestion.



cause of the fear of suffering after eating, or unless he habitually induces vomiting to relieve his distress.

The *objective* signs on physical examination are tenderness over the epigastrium, but general rather than localized; a succussion splash quite constantly even for four or five hours after food has been taken; but no tender spot, no palpable tumor and no peristaltic wave over the stomach area. The only positive proof of the condition, however, is that obtained by the test meal. One hour after the Ewald meal is taken, the material removed is usually abundant, it often comes out through the tube with a violent gush and it contains a larger proportion of fluid than of solids, making an excess of liquid in the receiving vessel, with well-triturated toast settling to the bottom. This is the characteristic finding in hyperchlorhydria and by it one learns to feel reasonably certain of the diagnosis even before the analysis is made. The total acidity is high. Taking the normal limits of total acidity as 40 to 60, we find values in hyperchlorhydria anywhere from 60 to 100 or even above. But it is not the total acidity alone that is diagnostic; one must know also the amount of free HCl, of combined HCl and of the organic acids and acid salts. Usually we find large amounts of free HCl present, making up the greatest part of the total acidity. But in some cases the free acid may be quite moderate, while the combined acid has the higher figure. What really settles the diagnosis and should always be looked upon as conclusive is the sum of the free and combined acid values, no matter which one of the two happens to be greater. If on the other hand it is found that with a high total acidity the greatest part of this is taken up by the organic acids and acid salts, the case is obviously not one of hyperchlorhydria.

*Significance.* The meaning of hyperchlorhydria is always the problem of most importance. It should be looked upon only as a symptom, and we have in every case to ask ourselves what condition underlies it. The possible conditions are not many, but to recognize the one operating in a given case is often extremely difficult.

(1) In many instances hyperchlorhydria is rightly classed as a *neurosis*; that is, there is no organic lesion found associated with it and the only explanation for it is in a disordered nervous system. Many facts speak for this as a common etiology. It occurs frequently in those who present other evidences of neurasthenia or hysteria. It is always worse after fits of emotion such as anger, or after periods of worry and anxiety or overwork. It is also suggestive that the degree of suffering is not always coincident with the degree of hyperacidity, for some patients with moderately high acidity complain constantly, while others with excessive amounts of free HCl on analysis may feel fairly well—showing that hyperesthesia or disordered sensation plays an important part in the production of symptoms. Even after a case is cured clinically and no further complaint is made, analysis may continue to show hyperacidity; but the element of hyperesthesia has been removed and so the hyperacidity is no longer perceived. Finally, a large proportion of the cases of hyperchlorhydria, diagnosed as nervous in origin because no other cause can be found, do undoubt-

edly recover promptly on treatment directed to the nervous system as well as to the stomach. Yet no greater error can be made in diagnosis than to assume too readily that hyperchlorhydria is merely a neurosis and that no organic disease exists. We are learning more and more to distrust all so-called gastric neuroses and to search each case carefully for some organic lesion, either in the stomach itself or possibly in some distant organ.

(2) The first organic lesion suspected when hyperchlorhydria is found is *gastric ulcer*. It is true that ulcer is almost inevitably accompanied by hyperchlorhydria; but there must be still other evidence to prove the existence of this most serious disease. The data upon which we depend for the conclusion that ulcer is present, are partly subjective and partly objective. In the history there is more definite localization of pain; the pain is more intense; it is frequently felt in the back as well as in the epigastrium; it is more likely to disturb sleep than is the burning distress of hyperchlorhydria; while a bloody vomitus is never present in simple hyperchlorhydria and does occasionally occur in ulcer—but should not be awaited before a diagnosis is reached. The objective evidence pointing to ulcer is not only the hyperchlorhydria found after a test meal, but the tender spots on pressure over the epigastrium; usually to the right of the median line, and over the back close to the 10th, 11th or 12th dorsal spine, usually to the left side of the vertebrae; the discovery of occult blood in the stomach contents or particularly in the feces; the finding of food retention in the stomach and of a left to right peristaltic wave, indicating obstruction at the pylorus, no matter whether this obstruction be due to actual mechanical or to simple spasmodic closure of its lumen. If the data are all positive, it is easy to conclude that the hyperchlorhydria is only one symptom of ulcer; but if the data are incomplete, it is often impossible to decide that the case is anything more than one of hyperchlorhydria. In such a case time, further observation and the effects of therapy help to settle the doubt. Regarding the value of orthoform in allaying the pain of ulcer, and thus as a diagnostic test, I have never had any results that justified confidence in it.

(3) Hyperchlorhydria is also found associated quite constantly with *duodenal ulcer*. In fact, there is practically no difference between this and gastric ulcer except the slight one of situation with reference to the pyloric orifice.<sup>3</sup> The symptoms are much the same in both; but the points indicating that the ulcer lies on the duodenal side of the pylorus are the later occurrence of pain after food has been taken, the "hunger pain" especially at night when the stomach is empty, the lower situation of the tender spot in the epigastrium or right hypochondrium, and the fact that when hemorrhage occurs the blood is not vomited but passed by the bowel. Among objective signs, there is nothing about the degree of hyperchlorhydria to aid in determining the site of the ulcer; food retention in the stomach is as likely to occur whether the obstruction and spasm be just above the pylorus or just below it; but oc-

<sup>3</sup> The writer's views on this point have changed decidedly during the months that have elapsed since this was written; and he now feels, at the time of publication, that this statement is not altogether correct.

cult blood in the feces without occult blood in the stomach contents is of some value in locating the ulcer below the pyloric orifice. The Einhorn duodenal bucket promises to be of aid in locating the site of the ulcer, but has so far not been tried in enough cases to make us sure of its value. In general it is much more easy to say that a hyperchlorhydria means ulcer in a given case, than it is to say which side of the pyloric ring the ulcer lies.

(4) One of the most important additions to our knowledge during the past decade has been the discovery that hyperchlorhydria may be associated with *gastric cancer*. This is true quite regularly when the cancer has developed on an ulcer base; and the frequency with which malignancy may follow chronic ulcer is becoming constantly better realized.\* For years attention has been persistently called to the absence of hydrochloric acid from stomach contents in gastric cancer and this absence has been generally accepted as one of the vital points in the diagnosis. Now, however, we are learning that not only normal but even excessive amounts of acid may be found with cancer of the stomach, provided the cancer is a sequel to ulcer of the stomach. In a given case, therefore, hyperchlorhydria does not negative a possible diagnosis of cancer. In such a case after months of a history characteristic of gastric ulcer, then develop the loss of appetite, the coffee ground vomitus, the more constant diffuse pain, the rapid loss in weight, the cachexia and ultimately the palpable tumor mass characteristic of cancer. A valuable aid in diagnosis is that announced a few years ago by Schmidt, on examination of the stools. In either ulcer or cancer, occult blood may be found in the feces; but in cancer there may also be found in the feces numerous Oppler-Boas bacilli, Gram positive, while in ulcer these do not occur. This test has been proven of value in numerous cases by different observers, and helps to throw important light upon doubtful diagnosis between these two lesions.

(5) It must always be borne in mind that hyperchlorhydria may be associated with disease elsewhere in the digestive tract than in the stomach. The other organs particularly to be remembered for investigation are the gall-bladder and the appendix. In these conditions the gastric hypersecretion is only a nervous reflex. The difficulty is that to it all the symptoms are likely to be referred and the real trouble behind it is overlooked. In *gall-bladder disease* the symptoms may be almost entirely gastric for months—distress after food, eructations of gas, water-brash, nausea and occasional vomiting, and soreness and tenderness over the epigastrium or right hypochondrium; and when in addition hyperchlorhydria is found, the problem is considered solved. The data that point to the existence of disease outside the stomach are the occasionally recurring attacks of pain, more or less severe, in the gall-bladder region, regardless of diet and even while careful diet for hyperchlorhydria is being given; the slight elevation of temperature occurring with these attacks; the tenderness and rigidity found at the time at the lower border of the liver in the gall-

bladder area, and possibly a palpable mass there. There is no intention to convey the idea that gall-bladder disease is always accompanied by hyperchlorhydria; for on the contrary a normal acidity or subacidity is frequently found. But what is intended is to call attention to the fact that hyperchlorhydria, when it is found, may be simply the consequence of disease entirely outside the stomach, in the gall-bladder or elsewhere.

(6) As regards the *appendix*, chronic inflammation of this organ is a frequent source of dyspepsia of the acid type and after a test meal hyperchlorhydria is often found. It may be impossible in these cases of appendix dyspepsia to elicit any history of a previous acute attack of appendicitis; but there is usually definite evidence of trouble in the appendix region such as a palpable mass there with exquisite tenderness on deep pressure; and occasional attacks of pain and soreness, without fever or very severe suffering. Here again the hyperchlorhydria is only a symptom and not a constant symptom. Often with all the symptoms pointing to the stomach as the seat of disease, and with all of them such as are found with excessive acidity, the test meal shows hyperchlorhydria; and the cause of the gastric condition may not be suspected, until careful search reveals the appendix condition. Even then the relation of one to the other may not be considered proven until after ordinary treatment directed to the stomach has done no good. On the other hand, however, it must be remembered that the stomach may show normal acidity or even subacidity in chronic appendicitis and that appendix dyspepsia is not always of the acid type.

(7) Another symptom complex in which hyperchlorhydria is quite regularly found, is that associated with *movable kidney*. The combination of the symptoms of acid dyspepsia, chronic constipation, and general neurasthenia, is a frequent one with the objective findings not only those of hyperchlorhydria after a test meal, but also of a prolapsed right kidney. Frequently in these cases the stomach is also found prolapsed. It is often difficult to decide here just what should be the point of attack; but it is obvious after experience, if not before, that mere treatment of the gastric hypersecretion will not clear up the situation, and that the kidney prolapse must be dealt with by some method or other before success is achieved.

(8) Finally, hyperchlorhydria may mean chronic narrowing at the pylorus, with partial food retention and the irritation of the gastric mucous membrane that habitually results. Such chronic narrowing may be the consequence of the scar of a healed ulcer; or of adhesions from old gall-bladder inflammation; or of kinking from prolapse of the stomach. Evidences of this obstruction are the peristaltic wave to be elicited over the stomach; the delayed emptying of the organ and food stagnation proven to exist by the stomach tube; and the dilatation found by inflation. The previous history of the case must be relied upon to furnish the proof of former ulcer or cholecystitis; while inflation will demonstrate the existence of gastropnoia. The hyperacidity in these cases is again only a symptom, due directly to chronic irritation of the gastric

\* Wilson & MacCarty: Am. Jour. Med. Sci., Dec., 1909, p. 846.

glands by too long retention of contents in the stomach; and indirectly to pyloric narrowing as a sequel of former organic disease.

**Treatment.** Granted that the hyperchlorhydria has been diagnosed as a gastric neurosis, associated with no organic lesion, much can be done to relieve it by medical means; and in any doubtful case, such treatment proves a diagnostic aid, by its success or failure. Of the first importance is *diet*; and after trials of various forms of foodstuffs, the proteids have been found to agree best, regardless of theoretical considerations to the contrary. The diet should therefore include milk, eggs and scraped meat, with thoroughly baked and partially dextrinized wheat bread. A list often prescribed at the outset is the following: 7 a. m., two soft-boiled or poached eggs; thoroughly toasted bread, or zwieback or toasted soda crackers, with butter; eight ounces of milk. 10 a. m., eight ounces of milk (with toast and butter if desired). 1 p. m., beef, mutton or chicken, picked into shreds while raw or chopped fine, then made into a meat ball and cooked rare; toast, zwieback or crackers with butter. 4 p. m., eight ounces of milk (with toast and butter if desired). 7 p. m., a bowlful of well cooked rice, with butter or cream; or shredded wheat biscuit with butter or cream; or toast or zwieback for variety; six ounces of milk to drink.

The fats are likewise of importance, because they not only are necessary to nutrition but because they decrease the acid secretion. Cream with the milk and butter on the zwieback or toast are therefore early additions to the dietary. Gradually other additions are made as the case improves, until at the end of a few weeks quite a liberal variety can be allowed; but always cautioning against all coarse and irritating foods. A diet list is furnished of articles permitted and denied, and the patient is advised to follow this carefully for weeks or months according to the progress of the case. Such a list usually allows eggs, tender meats, fish of any kind, milk, soups, thoroughly cooked cereals, crackers and zwieback; but excludes vegetables, fresh fruits and all acid and highly seasoned foods.

Next of importance in treatment come drugs. These aid by neutralizing the hyperacidity or by checking the secretion. For neutralizing the hyperacidity, a useful combination is one of soda bicarbonate and magnesia usta, to which powdered rhubarb is added if constipation exists; such a powder to be given an hour or two after meals, when gastric distress begins. Another useful powder is a combination of cerium exalate, bismuth subcarbonate and light carbonate of magnesia, given in the same way after food. Usually such powders can be gradually discontinued as the diet is made to combine with the excess of acid. In case of excessive nervous irritability sodium bromide can be added to either of the powders mentioned.

Of drugs that check secretion, the most valuable are belladonna, silver nitrate and olive oil. A pill of extract of belladonna and silver nitrate given before meals; or a half ounce or ounce of olive oil given in the same way are often very great aids in preventing distress. The former plan, alkalies after meals, is the one usually tried first. If symp-

toms do not disappear after a reasonable time, the second plan is then adopted, either alone or coincidentally.

In some cases with other outspoken evidences of neurosis besides the gastric condition, no results are obtained until the patient is taken from his usual activities, put to bed, isolated and given the usual regime known as the rest cure. In other cases it suffices to send such patients away from their usual business cares and family worries on a vacation, with the diet and prescriptions just described. By these various devices the patient with hyperchlorhydria can usually be made comfortable quickly and ultimately cured completely, so that he is at liberty to eat and live without such great restrictions; though the ailment is always likely to recur with indiscretions in diet or long-continued mental effort or worry or emotion.

If the case does not improve on any of the plans suggested, it can be assumed as reasonably certain that some cause exists not previously recognized. The first thought should be of an ulcer, for which further search should be made. Whether ulcer is positively discovered or seems only very probable, a systematic ulcer cure should next be instituted. There is a medical cure for gastric ulcer in its early stages; but for chronic ulcer, of several years' standing, where extensive organic changes have taken place, no permanent cure can be expected except from surgery. The danger that cancer may develop upon an open ulcer or upon the unhealthy cicatrix of a healed ulcer is still another argument for surgery in the chronic cases with persistent hyperchlorhydria. For hyperchlorhydria associated with movable kidney, much can sometimes be done by a properly fitting corset to support the kidney, in connection with diet and alkalies. For chronic appendicitis and chronic gall-bladder cases, no cure for the hyperchlorhydria exists except removal of the underlying cause; and the same is true for pyloric stenosis from whatever source it has arisen.

## THE VALUE OF RECTAL EXAMINATIONS.\*

By ALFRED J. ZOBEL, M. D., San Francisco.

A very brief description of the anatomical relations of the rectum and sigmoid colon will suffice to illustrate how functional or organic disturbance in neighboring parts might cause symptoms to arise in these portions of the large bowel, and vice versa; and at the same time demonstrate the necessity for, and the value of, rectal examinations.

The lower portion of the rectum is in relation anteriorly with the prostate gland and membranous urethra in men, and with the vagina in women. The upper portion is in relation anteriorly with the bladder and superior part of the prostate gland and the seminal vesicles in the male, and the vagina and the pouch of Douglas in the female. The latter contains the sigmoid flexure, loops of small in-

\* Read at the Fortieth Annual Meeting of the State Society, Sacramento, April, 1910.



testine and various pelvic organs. The anterior wall of the rectum is thus in close contact with these parts.

When the sigmoid colon is empty it lies in the recto-vesical space, and so is in direct relation anteriorly with the bladder in men, and with the uterus, ovaries and fimbriated extremities of the tubes in women. When normally distended by gas and fecal matter, and not prevented from ascending by adhesions or weight of growths, heavy fecal masses, etc., it rises into the abdominal cavity, and is there surrounded by loops of small intestines, and by the abdominal wall.

The centers of the nerve supply of the anus and rectum are practically the same as those of the genito-urinary apparatus.

Patients with anal or rectal symptoms generally complain of "piles." They offer this self-made diagnosis no matter what the real trouble may be, and he who with calm indifference accepts their diagnosis without a digital or ocular examination is very apt to make most humiliating errors. In proof of this I will say that twice within the year I have found far advanced and inoperable cases of rectal carcinoma in men who had been told that their symptoms arose merely from internal hemorrhoids. Several individuals with primary gonorrhea of the rectum coming under my observation had previously received from symptoms alone a diagnosis of "itching piles." Recently, a youth of 19 years appeared at my clinic complaining of "piles." An examination showed his anus surrounded by the well-marked condylomatous lesions of secondary syphilis; his inguinal glands most markedly enlarged, and his body covered with syphilides. Yet the unfortunate boy was totally unaware of his true condition and came seeking relief for "piles" only. In such a case as this very grave consequences to others as well as himself might have ensued if a rectal examination had been neglected.

In my experience uncomplicated hemorrhoids give rise to but few of those symptoms for which relief is commonly sought. There is generally present some lesion in or about the anal canal, such as a fissure, ulceration, beginning abscess, hypertrophied papilla, inflamed Crypt of Morgagni, fistula or an inflammatory condition of the mucous membrane. Symptoms of pain, bleeding, or itching at the anus are attributed solely to hemorrhoidal disease by the laity, yet on examination we may find the pain due to an irritable fissure or ulcer, beginning abscess, cancerous growth, or to an unsuspected fistula; the bleeding arising from like lesions; and the itching due to fissures or to the parts being kept moist by irritating secretions from pathological conditions

above, or caused by the anal lesions described by Wallis and by Chittenden Hill.

In the presence of a pruritus ani a proctoscopic examination is of the greatest importance in order to arrive at a correct etiological diagnosis. Yet how seldom is this done even by the dermatologist, who is often satisfied by a mere inspection of the peri-anal skin. Wallis and Hill both claim that shallow ulcerations in the proctodeum are the main causative factors of a pruritus ani, and that the secretion from these lesions, or from those of the mucous membrane higher up may cause the irritated and fissured condition of the itching peri-anal skin. While pruritus ani may be due to external causes, such as a dermatitis, eczema, herpes, pediculi, parasites, etc., or to constitutional or reflex causes, yet it should be kept in mind that it may be a symptom of fissure of the anus, hemorrhoids, copremia, rectal growths, disease of the crypts of Morgagni, catarrhal diseases of specific or non-specific types, fistulae, etc., and these are disclosed only by a proper examination and the tormenting symptom relieved only when the cause is removed.

Where there is pain or even only discomfort about the anus we may find an external thrombotic hemorrhoid which can be painlessly evacuated of its clot before possible complications arise; or a marginal, ischio-rectal, or perineal abscess which can be opened externally before it ruptures into the bowel and leaves a fistula. Where pain immediately precedes a movement of the bowels, a deep seated ulcerative process, such as carcinoma of the rectum, should be suspected. Rectal cancer in its early stages gives rise to practically no pain. Very often the patient, and even his medical attendant, attributes the slight bleeding, tenesmus and distress to "piles." Owing to failure to make a proper examination it is not until the classical symptoms of well developed and usually incurable disease are present that cancer of the rectum reaches the hands of the surgeon. In every individual with rectal symptoms an examination should be made for the possible presence of a malignant rectal growth, especially so when there has been a history of persistent constipation or diarrhea, or a combination of both.

It seems almost needless to suggest a proctoscopic examination where there is a history of bleeding from the anus, yet too often is this neglected, and an astringent ointment or suppository prescribed for what is thought to be only bleeding from internal hemorrhoids. The medical attendant is apparently unconscious that hemorrhage could also be a symptom of fissure; fistula; ulcer of a simple, tubercular, specific or malignant type; cancer; severe forms of prolapse; proctitis; protruding polypi; villous growths; stricture complicated by ulceration;

chancroids; chancres, condylomata, traumatism from foreign bodies, or fecal impaction. The passage of blood, not accompanied by pain or other symptoms may be a danger signal in commencing malignant disease.

As pointed out by Wallis, many cases of profound anemia may be due to hemorrhage from hemorrhoids. This is frequently ascertained only after treatment for the anemic condition has failed, and as a last thought an examination of the rectum has finally been made. When rectal hemorrhage comes from capillary hemorrhoids high in the rectum it is important to exclude the presence of an ulcer further up. According to Goldman, high hemorrhoids 10 to 18 c. m. above the anus may be the cause of occult hemorrhage.

The passage of ribbon-shaped stools may incline one to suspect a malignant growth or stricture, but a digital exploration may show the cause in a spasmodic condition of the rectum and anus, which may be part of a neurasthenic or hysterical neurosis, or a symptom of inflamed hemorrhoids or anal fissure.

In the aged where there is abdominal pain, a rectal examination always should be made, for, as pointed out by Deaver, it is frequently caused by cancer of the rectum.

A tumor in the left iliac region which is sensitive to pressure with stools containing much mucus, on sigmoidoscopic examination may be shown to be only a spastic contracture of the sigmoid which is not uncommon in well marked cases of gastroptosis.

All diarrheal conditions call for a prompt and thorough proctoscopic examination. When there is an obstinate diarrhea, especially in an elderly person who had previously regular stools, and it is accompanied by pain and tenesmus, there is a possibility of the presence of cancer. As these individuals frequently attribute the onset of the diarrhea to some error in diet, or to exposure to cold, serious consequences may occur if an examination be neglected.

All sufferers from mucous colitis should be subjected to high rectoscopic examination. Recently Kaabak and Rosenchein have demonstrated that mucus is produced in excessive quantities only at that point where there is local irritation. This point of local irritation may possibly be found and thus permit of effectual therapeutic measures. Lockhart Mummery states that instrumental examination is especially valuable in distinguishing secondary from primary forms of mucous colitis. The cause of the colitis may be found due to adhesions binding down or constricting the sigmoid colon. Such a case was demonstrated by me before the San Francisco Polyclinic Society. The diagnosis of adhesions binding down the gut at the recto-sigmoidal junction was afterwards confirmed at operation. Inflammatory lesions in the mucous membrane of the sigmoid of a simple, granular, hypertrophic, follicular or ulcerative type, or a neoplasm, may be found to be the causative factor of the colitis.

When symptoms of indigestion are present it is well to remember that they may be caused reflexly by ulceration, stricture or carcinoma of the rectum. Flatulence may arise from a fissure of the anus with resulting constipation. Tympanites is present in stricture and malignancy.

Where there is obstruction of the bowels, either partial or complete, rectal exploration is of prime importance. The cause perhaps may be found in a stricture, carcinomatous or benign neoplasm; fecal impaction enteroliths, foreign body, some malformation, hypertrophy and thickening of the valves of Houston, an enlarged prostate, misplaced uterus, or from a narrowing of the rectal lumen due to a tumor or inflammatory exudate pressing from without.

One of the symptoms for which patients seek relief most frequently is constipation. Much can be learned in these cases from a proper examination with finger and proctoscope. Digital examination may disclose a very rigid and hypertrophied anal sphincter, perhaps caused by an irritable fissure, an inflamed pocket at the valves of Morgagni, or an ulcerated thrombotic hemorrhoid. A little higher up perhaps there may be felt a foreign body, a growth of benign or malignant nature, or a stricture. (This last probability is alone sufficient reason why an instrument should never be introduced into the rectum before a digital examination is made.) Or the finger may find a deviated coccyx pushed into the lumen of the rectum, obstructing the passage and giving rise to pain; or an entire absence of that bone, thus forming a well marked retrorectal pouch in which fecal matter accumulates. The proctoscope may show an atrophic or hypertrophic proctitis, either the cause of or most probably the result of the constipation. The valve of O'Bierne at the recto-sigmoidal junction is the narrowest point of the large bowel, and we often see here such a spasmodic condition of the gut that we can well account for the patient's constipated state. When the rectum is distended with air the valves of Houston come well into view. They may be hypertrophied or so placed that being directly opposite each other they retard the passage of the fecal mass.

Tuttle has found that in 40% of his cases of rectal cancer there was a history of constipation, and suggests that a periodical examination of the rectum be made in all cases of persistent constipation (just as the urine is examined in nephritis), as cancer may be lurking. Our suspicions of cancer should be aroused; and examination promptly made, when there is frequent desire to stool; call immediately to stool on arising; change from diarrhea to constipation and vice versa; loss of weight, flatulence and indigestion associated with stool irregularity.

An examination of the anus and rectum of infants and children is often of great value from a diagnostic standpoint. In children subject to obstinate constipation the cause may be a prolapse of the anus, a congenital stricture or a fissure of the anus. Blood in the stools of children, may be due to hemorrhoids. These are not often seen but may occur in children as young as three or four years. The bleeding, if accompanied by pain, may be due

to an ulcer of the rectum which may be of a tubercular type.

In prolapse of the rectum in children a local cause may be revealed as worms, polypi, inflammation of the prostate, or even a slight degree of congenital stricture of the rectum. The presence of a prolapsus ani which has been found to be caused by straining at urination may lead to a correct diagnosis of stone in the bladder, stricture of the urethra, or phimosis.

When there is a vulvovaginitis, of gonorrheal nature, the possibility of secondary infection of the anus and rectum should never be overlooked, for, according to Flugel about 20% of all children so affected had involvement of the rectal mucosa.

When a child is peevish, and is seen to rub the anal region saying "It hurts," a close examination of the anal mucosa may disclose superficial lesions that give rise to itching sensations. The child being unable to interpret this sensation as "itching," complains of it as "pain." I have not seen this observation mentioned heretofore, and believe that a mild type of pruritis ani is more frequent in children than commonly suspected, and that it accounts for much of that peevishness in these little ones for which no cause can be assigned.

A patulous anus, with the presence high up of a mass having the characteristic feeling of a nulliparus os uteri, will confirm a diagnosis of intussusception of the bowel, and is a very early sign of that condition.

In diseases of the nervous system an examination of the anus and rectum will often be found of much value. A paralyzed external sphincter muscle may be one of the earliest symptoms of tabes. A weakness of this muscle should arouse a suspicion of a generalized polyneuritis. Singer has called attention to the fact that sometimes disease of the lower bowel assumes the form of a distinctly nervous affection, and the local symptoms may be so slight as to give no hint of the true nature of the case. When complaint is made of severe pain about the ano-rectal region it is very important to exclude all other causes for the pain before attributing it to neuralgia. The anal crisis of tabetics may simulate a rectal neuralgia, the pains in the anus radiating to the rectum, perineum and buttocks.

The cause of a sciatica may be a loaded rectum, rectal stricture, hemorrhoids, or pressure upon the nerve roots by a benign or malignant rectal growth. In a man who had persistent sciatic pain for months, a rectal examination showed a growth resting on the sacral roots. There was a luetic history, and under large doses of the iodides the tumor and pain rapidly disappeared.

In a patient referred to me for examination by Dr. Leo Newmark there were marked nervous symptoms of a profoundly neurasthenic type. He gave a history of having had worms for twenty-five years. This was taken "cum grano salis," but the man's statement was corroborated when a high proctoscopic examination showed at the recto-sigmoidal junction a mass of fecal matter swarming with the oxyuris vermicularis.

Headaches and neuralgias may be due to the stagnation of fecal masses. When there is a tendency to melancholia or mental depression an examina-

tion may disclose a coprostasis or perhaps a mucous colitis.

Neuralgia shooting down the leg or even over the body may be due to an irritated fissure of the anus. Tuttle states that facial and occipital neuralgia, spinal irritation and temporary strabismus have been known to disappear almost immediately after operations for fissure.

In the practice of gynecology rectal examinations are of especial importance. Owing to the close anatomical relationship existing between the female genital organs and the rectum and sigmoid, as stated before disease or disordered function in the one is apt to set up a like condition in the other.

Women who are constipated often suffer from an unrecognized chronic sigmoiditis and have more or less of a leucorrheal discharge of an intermittent type. According to Stern, this leucorrhea is, for the most part, due to the mechanical interference of the diseased sigmoid with the uterus or adjacent generative organs. In young girls who suffer from leucorrhea and who are generally of the anemic type, an examination of the lower bowel often shows it filled with feces even though they state that a full movement of the bowel occurred an hour or so previously.

Albrecht states that when there is an inflammatory process in the sigmoid a clinical picture results which may simulate a pelvic peritonitis, and that a sigmoidoscopic examination should always be made and the possibility of a sigmoiditis thought of when examining a case of inflammatory tumor formation in the vicinity of the uterus when accompanied by obstipation and signs of stenosis. This is especially necessary in elderly women as they are particularly subject to stenosis of the sigmoid flexure from an indurative inflammation originating in a false diverticulum.

Pennington has emphatically called attention to the fact that the bowel factor is often overlooked in cases of seemingly utero-ovarian disease, and has deplored that physicians so rarely examine the rectum and sigmoid where symptoms apparently point to the genital organs only. In many instances the lower bowel will be found loaded with feces, and it is marvelous how the uterine symptoms sometimes disappear when relief is given to the bowel condition.

Howard Kelly states that a well loaded upper rectum sometimes crowds out behind the broad ligament, and without careful rectal examination an erroneous diagnosis of ovarian or tubular tumor is liable to be made.

Neurasthenics are common subjects of constipation with its resulting proctitis, and a rectal examination often clears up the cause of their pelvic disorder and allows of correct treatment.

Many persistent irritations and inflammations of the left ovary are caused by irritation from a chronic rectal condition. Whenever defecation in a woman is the source of pain and even agony, a rectal examination may show it to be due to a prolapsed ovary.

The quantity, frequency and course of the menstrual flow is affected by chronic constipation. When the menstrual function is at fault rectal examination is very rarely made, and as a consequence the cause remains undiscovered.



Baer reports that in 191 cases of gonorrhea in women there was rectal involvement in 30%. From this it is apparent how important it is that a proper examination be made in these cases so that no involvement of the anus and rectum is overlooked, especially so when complaint is made of a sensation of heat and burning in the parts which is increased on defecation.

Uterine and bearing down pains, and backache, may be caused reflexly by a fissure of the anus.

In diseases of the male genito-urinary tract rectal examinations are of great assistance in arriving at a correct diagnosis. When an individual comes to the genito-urinary surgeon complaining of an irritable condition of the bladder, with a local sensation of burning, tenesmus, and frequent and painful micturition, it is well to remember, if no local cause be found, that a proctoscopic examination may disclose a chronic sigmoiditis as the causative factor, and all symptoms may cease after a thorough evacuation and treatment of the sigmoid. In some instances there may be in addition an undue amount of residual urine which disappears as soon as the fecal accumulation in the rectum is removed. Like symptoms may arise from the presence of a carcinoma in a sigmoid flexure.

Albu has written that beginning cancer of the prostate gland may cause pains in the rectal region which occur intermittently and gradually grow more severe. These pains are often mistaken for neuralgia of the rectum and the real condition is only discovered on rectal examination.

In some instances dysuria and vesical tenesmus can be relieved only after a rectal examination has shown that these symptoms are caused reflexly by inflamed hemorrhoids, perineal abscess, acute proctitis or dysentery.

Some cases of cystitis, as pointed out by Ware, are caused by bacteria which have invaded the bladder from the rectum. Examination possibly may show a condition of coprostasis with lesions of the rectal mucous membrane.

Marked enlargement of the inguinal ganglia without any apparent cause may be due to a chancre of the anus. When a patient complains of pain on defecation a chancre or a chancroid may be disclosed instead of the expected fissure.

Frequent and painful urination may be caused by a chronic intussusception of the sigmoid colon; also from a fissure of the anus. The latter may give rise to all the classical symptoms of a urethral stricture, and the urethra may receive treatment without avail until the anal lesion is discovered and treated. On the other hand a stone in the bladder or a urethral stricture may cause rectal symptoms only, and the true cause thereof can be found only after an examination has eliminated the presence of rectal disease.

Vesical, prostatic, urethral and seminal vesicle disturbances have been observed to result from local or reflex irritations from chronically retained fecal accumulations. A rectal examination will often clear up a vexatious problem for the genito-urinary surgeon.

In conclusion, I wish to urge that a digital, and if possible, an instrumental examination of the anus and rectum be made a routine procedure. A proc-

toscopic examination should follow especially when the examining finger has felt something abnormal, or when non-palpable conditions are suspected.

Although according to Mummery the use of the pneumatic sigmoidoscope is attended by no dangers whatever, Sultain has reported that several times the rectum has been ruptured by extreme inflation with air. It is advisable that individuals of lowered vitality, with marked relaxation of all muscles, in the presence of old inflammatory conditions, should not be subjected to proctoscopic examination.

#### Discussion.

Dr. Langley Porter, San Francisco: I wish to emphasize the value of rectal examinations when we have to deal with acute or chronic abdominal conditions in children, and especially in infants. One point the reader has omitted and that is that it is practically useless to make rectal examinations of young children except under an anesthetic. Under an anesthetic such conditions as suspected appendicitis can be cleared up and a diagnosis made very readily. In a child of 2 years the examining finger can explore the abdomen as far as the umbilicus if the child be well anesthetized. Especially is this true in cases of intussusception; the finger discovers the absence of the caput coli in the iliac fossa and finds the intussuscepted gut at some higher point.

Dr. G. B. Somers, San Francisco: From a gynecological standpoint the importance of an examination of the rectum goes without saying. In fact it should be a routine part of such examinations. I have been very much astonished to find how frequently a mistake is made, by practitioners who ought to know better, in taking the pressure of the cervix against the posterior vaginal wall for a foreign body. The patient complains of constipation, some heaviness or sensation of obstruction and the practitioner making the examination, forgetting how thin the septum is and feeling the body of the cervix, makes up his mind that he feels a foreign body or exudate or new growth. Again the mistake has been frequently made of taking this pressure of the cervix for retroversion. This simply illustrates how thin the recto-vaginal septum is and how easy it is to map out the pelvic organs through the rectum. In an unmarried woman rectal examination is permissible, and it will be found that the pelvic organs can be mapped out as well as through the vagina. Recently in examining the rectum and bowel higher up I have used the inverted position, having the patient practically standing on her head, the legs and thighs on the table, her head on the floor. With this method the bowel balloons out with the in-rushing air and one is able to examine as high as the sigmoid. In making rectal examinations there is no instrument equal to the Kelly speculum or some form of it.

#### FUNCTIONAL PERIODICITY IN WOMEN AND SOME OF THE MODIFYING FACTORS.

By CLELIA DUEL MOSHER, A. M., M. D., Palo Alto.

(Continued from Page 8, January issue 1911.)

1. Type of respiration. In April, 1894, Dr. G. W. Fitz of Harvard University reported<sup>9</sup> to the Boston Society of the Medical Sciences and in May of the same year I presented a preliminary report<sup>10</sup> for a Master's degree at Stanford University, on the normal type of the respiratory movements, in which we both derived the same general conclusions, although working independently. Until 1896 all the physiologies stated that men breathed abdominally and women costally; but these researches established the fact, now generally accepted, that

there is normally no difference between the sexes in the normal type of respiration. This discovery has emphasized strikingly the close relation between the respiratory type and pelvic health and the part which gravity may play in altering them. In order to show this more clearly, I may quote from Dr. Howell's physiology to refresh our memories on the subject of the circulation:

"When an animal, accustomed to go on all fours, is held in a vertical position, the great vascular area of the abdomen is placed under an increased pressure due to gravity, and unless there is compensatory contraction of the arterioles or of the abdominal wall, so much blood may accumulate in this portion of the system that the arterial pressure in the aorta will fall markedly or the circulation may stop entirely. In most cases compensation takes place, and no serious change in the circulation results. In rabbits, however, which have lax abdominal walls, it is said that the animal may be killed by simply holding it in the erect position for some time. For the same reason an erect posture in man may be dangerous when compensatory nervous reflexes controlling the arteries and tone of the abdominal wall are thrown out of action, as for instance, in a faint or in a condition of anesthesia."<sup>11</sup>

Let me also call to mind the well-known anatomical fact of the very abundant supply of blood in the pelvic organs and the arrangement of the tortuous arteries and veins which favor the physiological congestion of these organs at the time of menstruation. And it must not be forgotten that the vena cava inferior is without valves, which makes it the easier for this column of blood to be hindered by gravity in its flow back to the heart. Nor should the existence of a negative pressure in the thorax be overlooked. Thus the thoracic portion of the vena cava inferior is under less pressure than the abdominal portion. To quote Dr. Howell:

"At each inspiration blood is 'sucked' from the extra-thoracic into the intra-thoracic veins. So far as the vena cava is concerned, the effect is augmented by the simultaneous increase in abdominal pressure. For as the diaphragm descends it raises the pressure in the abdomen as it lowers the pressure in the thorax. The two factors co-operate in forcing more blood from the abdominal into the thoracic cava."<sup>12</sup>

The relation between these physiological facts and the fashion of clothing for women may now be considered. At puberty girls are put into corsets, tight bands, and heavy, unsupported skirts which interfere with the respiratory movements, lessening the action of the diaphragm, rendering the abdominal muscles flabby and inefficient, in some cases changing the type of respiration from abdominal to costal. Thus arise conditions which promote excessive abdominal and pelvic congestion. This in turn changes the physiological periodic congestion of the normal menstrual flow into a chronic congestion which, if not pathological and the beginning of inflammatory processes, certainly prolongs unduly the menstrual flow. When we remember, moreover, that the blood which is lost is just as good as the blood remaining, and represents just so much potential energy, we need not be astonished that women have discomforts and are inefficient, nor that girls are pale and anemic.

The results of deficient muscular development are no less injurious than those of improper clothing. As the diaphragm descends the abdominal muscles

are relaxed, increasing the size of the abdominal cavity to permit the descent of the contents, and normally there is no undue thrust downward on the pelvic contents. With the squeezing of the abdominal contents by the contraction of the abdominal muscles, more blood is forced from the abdominal cava into the thoracic portion. Furthermore, since these abdominal muscles play an important part in child-birth, they should be as strong and efficient as possible. Nor is this all: they are an essential part in the support of the kidneys in their normal position, and the miseries of a misplaced kidney are not infrequently called dysmenorrhea. Here is certainly a very strong argument for the muscular development of girls and women and for a rational fashion of dress.

As to the duration of the menstrual flow there is considerable discrepancy among different observers, but it is usually given as from four to seven days. The duration of flow should be estimated for the time during which there is any show of color. There is a lack of uniformity and understanding in answering this question. Some women give the number of days during which there is much flow, others the number of days during which there is any show of color.

The following table, taken from Kelly, is reprinted that it may be compared with Table II, which also shows the duration of menstruation in 130 average women. (See Table No. I.)

A comparison of Table I of Dr. Kelly's cases, and Table II of my own cases, suggests that the shortest menstrual periods (1 or 2 days) in Table I were due to women giving only the days of principal flow instead of the total duration.

Table II, although made on the basis of single observations, is sufficiently accurate to show that the menstrual period is too much prolonged in the majority of cases. In these 130 average women the main flow is over in from two to three days, while the congestion and consequent bleeding is prolonged to four, five, six and even eight days. If this condition (which is not found in uncivilized races) can be remedied even partly by getting women into loose dress, by giving them in a recumbent position deep breathing during the menstrual period, thus counteracting the effects of constriction and gravity, and by developing their muscles in the intermenstrual period, it will be of manifold advantage both to the individual woman and to the race.

It could be no advantage to the organism to have the flushing of a muscle prolonged beyond its need for action, for rebuilding and carrying off its waste; nor to keep the digestive organs full of blood beyond the period of activity. It must then be equally undesirable for the uterus to be kept in a condition of chronic congestion. There can be no doubt that it is more physiological to have the uterine congestion and flow confined within definite limits, for the slight show of color prolonged for several days (Table II) represents congestion beyond the period of proper functioning. (See Table No. II.)

In a group of average women I have produced a marked improvement at the menstrual period by using so simple a measure as deep breathing. All constricting dress having been removed, the women,

in the recumbent position and with knees flexed to relax the abdominal muscles, have done deep breathing once or twice a day during the menstrual period, with the result that all pelvic sensations, depressions and minor symptoms usually included in the term dysmenorrhea have disappeared. In a number of cases also the period has been shortened more nearly to conform to the period of principal flow. These experiments will be presented in detail in a later paper.

These experiments tend to emphasize still fur-

TABLE I.

Showing Duration of Menstruation in 1000 Cases (from Kelly). <sup>13</sup>	
1 day.....	15
1-3 days.....	15
2 days.....	36
2-4 days.....	59
3 days.....	105
3-5 days.....	85
4 days.....	115
4-6 days.....	112
5 days.....	136
5-7 days.....	83
6 days.....	68
6-8 days.....	37
7 days.....	122
7-8 days.....	12
Total.....	1000

TABLE II.

Duration of Menstrual Flow (130 Cases), Arranged to Show the Relation Between Total Duration, Main Flow and Prolonged Flow.

Total duration of flow in days.	No. of cases.	No. of days on which flow amounts to considerable.	No. of cases.	Diff. in days between total flow, i. e., and main flow, prolonged flow.
3 .....	7	1 1/2	1	2
3 1/2 .....	1	1 1/2	1	1 1/2
3 to 4 .....	5	1 1/2	1	2
3 to 5 .....	1	1 1/2	1	0-1
3 to 6 .....	1	1 1/2	1	0-2
4 .....	23	1 1/2	12	2 1/2
4 to 5 .....	17	1 1/2	10	1 to 2
5 .....	42	1 1/2	23	1 to 2
5 to 6 .....	8	1 1/2	5	1 to 2
5 to 7 .....	1	1 1/2	1	1 to 2
6 .....	15	1 1/2	8	1 to 2
6 to 7 .....	1	1 1/2	1	1 to 2
6 to 8 .....	1	1 1/2	1	1 to 2
7 .....	6	1 1/2	4	1 to 2
8 .....	1	1 1/2	1	1 to 2
Total cases	130		130	

ther that the upright position, the force of gravitation and constricting dress are conjoined factors in hindering the circulation of the blood from the pelvis to the heart, and are therefore important factors also in producing dysmenorrhea. Since in women of the uncivilized races we find the minimum of flow with no disability and perfect functioning, there can be no danger in gradually lessening by such physiological methods the period of prolonged pelvic congestion.

In a recent report<sup>14</sup> on operations for dysmenorrhea, Dr. Norris and Dr. Barnard call attention to the importance of determining the causes of dysmenorrhea. Among the cases cited are the following:

	Cured permanently	Not cured	Temporarily cured
10 cases digestive dysmenorrhea .....	0	8	2
7 cases spastic and congestive symptoms combined .....	3	3	1

If we assume that the temporary improvement in three cases was the result of the psychological effect of the operation, we conclude that out of 17 operations for dysmenorrhea 14 were unsuccessful and were therefore unnecessary. Such digestive and congestive dysmenorrheas might possibly be interpreted as due to altered blood pressure and treated as such without operation. As long ago as 1892-6 a number of the leading gynecological surgeons urged conservatism in removing the ovaries of women, a custom then quite too prevalent.<sup>15</sup> The first step toward a more conservative action in regard to the treatment of dysmenorrhea was made when a great gynecological surgeon wrote a medical gynecology in which hygiene, clothing, muscular development, etc., were strongly emphasized.

As early as 1894 Kelly urged the importance of the general practitioner recognizing "the purely hysterical" cases of dysmenorrhea, in whom local treatment of any kind is positively injurious. He also calls attention to the type of dysmenorrhea due to chlorosis,<sup>16</sup> and to the "hysterical and neurotic" type, by whom moderate pain is described as agony. I have frequently found that women think they ought to have pain to be normal, and describe what may be properly called "pelvic consciousness" as pain. This has been carefully noted in my records as a separate group, and is probably due to blood pressure.

The preliminary fall in blood pressure<sup>17</sup> which precedes the main fall in general blood pressure, which occurs from 5 to 7 days before the menstrual flow, and which is an abrupt drop and an abrupt return to the mean average pressure, is often associated in a certain number of women with pelvic consciousness, which causes the women to think the menstrual period is coming. This preliminary drop may be the basis for the unexplained "intermenstrual pain."<sup>18</sup> The periodic drop in blood pressure which is common to both men and women is probably a sexual rhythm. It is not a menstrual rhythm, as has been shown.

Menstruation is but one small part of the activity of the reproductive machinery. Because it is an obvious function, everything occurring at or near



the time of this periodic flow of blood from the uterus of the woman has been referred to this function. A new and more limited view of menstruation must come. The fundamental conception of a periodic activity of the reproductive system in both men and women must take its place, and the physiological processes and the attending sensory disturbances in both sexes should be referred to the fundamental sexual rhythm, not to some one small part or expression of this activity in one sex. If there be an internal secretion which generates the sexual rhythm, then it will be found not only in the female but also in the male. Menstruation in woman, with its own disturbances and the coincident functional disturbances in other organs due to the lowered general blood pressure, have been greatly exaggerated by the bad hygiene of women. Physiological congestion is being prolonged unduly until it borders on the pathological. This condition, which is favored by the upright position, has resulted from the lack of muscular development and from constricting dress, changing the type of respiration or at least seriously interfering with the descent of the diaphragm, and rendering the abdominal muscles flabby and inefficient. Bad posture<sup>19</sup> which tends to support the rectum favors the development of constipation and alters the support of the uterus, making displacement easier. It deprives the bowel of the favoring effect of gravity on the waste and increases the unfavorable effect of gravity on the uterus.

In the emphasis and exaggeration of this one expression of the sexual activity of woman, her efficiency has been lessened and we have lost sight of the common biological basis of life. What the race needs is not undue emphasis of the sexual characters, but better and more efficient all-round perfect-functioning human beings.

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## THE RELATION OF GASTRIC HEMORRHAGE TO CHRONIC APPENDICITIS.\*

By CHARLES G. LEVISON, M. D., San Francisco.

Formerly in operations upon the stomach, gastroenterostomies were frequently made notwithstanding the fact that organic disease was absent. These operations were performed in the belief that the symptoms from which the patient was suffering would be relieved; occasionally, when an operation was carried out for the relief of gastric hemorrhage that had been complicated with pain and hyperacidity, the stomach when exposed was found quite free from perceptible involvement. It was particularly in this class of cases that the anastomosis would be made even in the absence of lesion, and harm instead of benefit was frequently the consequence. The end results of these operations were so unsatisfactory, that it soon became evident that they were not to be performed without specific indications. In cases where these indications were not observed, the persistent vomiting of bile was a frequent consequence and resulted from the so-called vicious circle; besides the operation left the symptoms—pain, hyperacidity and hemorrhage—uninfluenced.

The consensus of opinion at the present time is that ulcers should be excised whenever feasible; that an operation for hemorrhage should not be performed until medical measures have proven futile, and that the thin, dilated, toneless stomach should not be made the object of surgical interference. Furthermore, when the diagnosis of organic disease of the stomach is made and is not confirmed at operation, the stomach should not be disturbed, but the abdomen should be closed if no lesion is demonstrable.

The following history will serve as a type of the class of patients referred to:

A. B., age 35 years.—There was a marked neurotic history and the patient has always complained as far back as she can remember. She has borne two children and her pregnancies have been without incident. Subsequently she developed a marked diastasis recti associated with a general visceral ptosis. She gave a history of hyperacidity of the stomach contents, pain in the epigastrium, frequent vomiting and occasional haematemesis. The stomach was distinctly dilated and the patient would vomit food occasionally that she had eaten the day before. The diagnosis seemed easy to make,—a gastric ulcer that had produced a narrowing of the pylorus and consequent stasis.

At the exploration, a thin, dilated stomach was found, but there was no evidence of organic disease. A Finney operation was performed on account of the symptoms. Immediately after the operation the patient began to vomit bile, which persisted for months to such a degree that it became necessary, one year later, to reopen the abdomen.

\* Cooper College Science Club, April, 1910.

At the second operation the gastro-duodenal opening was found as it had been originally made and was fully two inches in diameter. As it was thought (this was a few years ago) that a gastro-jejunostomy might relieve the symptoms, a posterior no loop operation was performed. The condition remained as before without any relief of the symptoms, the vomiting of bile being in no wise influenced. Then a severe pain developed and a mass became evident in the left upper quadrant of the abdomen. On account of the pain associated with the tumor, that was the size of a fist, the abdomen was opened one year later. At operation the induration, which was found to be due to a thickened adherent omentum, was removed. At the time of the operation, both openings were found as they had been originally made with no tendency to contraction. The vomiting of bile has, however, persisted up to this date, although the patient is fairly comfortable at times.

I am quoting this history at length because it represents a type that is now being recognized at operation, and as a consequence, the results of surgery of the stomach are at present more satisfactory than they were in former years.

In connection with the previous mentioned class of patients, there is a condition to which attention has been called by Moynihan in a recent number of the "British Medical Journal." This article in my opinion is one of the most important publications that has appeared for some time.

In taking up the subject I can do no better than to describe the symptoms presented by the patients that have come under my observation.

**Indigestion.**—This is a common symptom. Belching is always present and is the result of flatulence that often appears immediately after eating. Flatus is not passed per rectum in any great quantity. The tongue is coated and the breath has a characteristic odor. Constipation is usually present. The patient seldom gives a history of peritoneal inflammation.

**Pain.**—Pain is usually present and is frequently felt in the epigastrium. It may not be severe. At times the pain is most marked at the left costal angle in the situation where the tenderness and pain of an ulcer of the lesser curvature is felt. Tenderness in the lower right quadrant is not always present, but the patient often states that a sensation of fullness is felt in this region, and I have seen patients rub the right side with the hand when rising from a chair and if questioned would answer that they have not touched themselves; it was evident that they rubbed themselves on account of a sensation of fullness and not on account of any pain. The pain is generally increased after exercise, as in walking, tennis playing and dancing, and it is also aggravated as a result of mental excitement and worry. It does not appear with the regularity of a duodenal ulcer but it comes on in a most capricious manner;

the pain does not radiate to the back or to the shoulder.

**Vomiting.**—The vomitus consists of an acid sour substance and it may be small in quantity; relief is felt immediately and is probably due to a relaxing of the pyloric spasm. It is now recognized that pylorospasm is often the cause of pain as well as the vomiting in this class of case.

**Haematemesis.**—The vomiting of blood is not an infrequent symptom; at times but a mouthful or two is thrown up or as much as a basinful may be vomited.

**Hyperacidity.**—There are sour eructations. Hyperacidity is often found to exist; diet does not altogether relieve the symptoms, as is the case in gastric ulcer, so that the patient frequently starves himself into emaciation in the hope of relief.

**Oesophagospasm.**—This symptom is occasionally present and it is felt by the patient as a lump low down in the oesophagus. Difficulty in swallowing does not often accompany the spasm.

**Pylorospasm.**—Pylorospasm is a condition that frequently causes a dilated stomach; pain and vomiting are also frequent results of this reflex. As the subject of pylorospasm is of such importance I will avail myself of the liberty of quoting in detail from Mr. Moynihan's paper:

"On opening the abdomen of a patient whose history I have described, no flaw can be discovered in the stomach even after the most minute and most meticulous care has been expended. There is no thickening, no whiteness, no puckering, no adhesion. The stomach looks in every particular quite normal. But if it be allowed to lie quietly for inspection (and it is better to watch it while the abdominal wall is raised up, before this organ is handled) a most interesting condition is displayed. The stomach in its pyloric half is seen to be in vigorous and excited action. At the point where the vertical and horizontal parts of the stomach merge a contraction starts and spreads towards the pylorus, and at last involves all the pyloric antrum. The stomach becomes thick, contracted and pale; its muscle is evidently in a state of strained and vigorous action, and the channel through it is almost obliterated. On the cardiac side of this area of spasm the stomach is quiet, a little distended even, and shows no movement. I described this condition for the first time in 1904 in the following words: On several occasions during the last few years I have watched the stomach intently for several minutes, and have seen the onset, the acme and the gradual relaxation of a spasmodic muscular contraction in its walls. Quite gradually the stomach narrows, and the wall becomes thicker and almost white in color; when taken between the fingers the contracted area feels like a solid tumor. The spasm may be so marked as to prevent a finger being invaginated through the segment affected. The appearance presented is very striking. I have seen it in the body of the stomach and at the pylorus, but never at the fundus. As slowly as it

comes on the spasm quietly relaxes, and the stomach assumes its usual form. When this condition is seen it may be predicted that a lesion will be found in the appendix. In summing up the symptoms of this condition, the picture of gastric ulcer presented is one that should satisfy the most exacting German clinician, namely: Pain and tenderness in the epigastrium, hyperacidity and haematemesis; but when the abdomen is opened, the stomach is found to be absolutely normal and this after a most careful and painstaking examination. The exploration of the duodenum and the gall bladder are also negative, but when the appendix is examined it is found to present definite pathological changes. With the removal of this appendage, the patient is completely restored to health."

My experience has shown that patients affected with oesophagospasm have been relieved by removing the appendix, so that even the oesophagus is not beyond the reflex from appendix irritation.

In confirmation of Moynihan's observations I herewith present the following history:

E. B., age 26 years. Family history negative. She gives a history of having had an ulcer of the stomach that healed under medical treatment at about the age of eighteen. About four years ago the patient began to suffer with severe pain in her stomach that appeared most often after eating. Three months later she vomited 1½ ounces of bright red blood. She was then placed upon a diet and there was no further bleeding. The pain persisted, however. She became very pale and three weeks later she was advised by Boas to go to Carlsbad, which she did; at that time she was pregnant. As there was no improvement she was sent to Wiesbaden, where her condition changed somewhat for the better. She then remained fairly well for some time. She was confined after a seven months' pregnancy that was accompanied throughout by persistent nausea and vomiting, but there was no blood vomited. Ever since she has been ailing; pyrosis has been marked. The symptoms of pain and acidity have always been pronounced.

She was examined by Dr. P. K. Brown, October 12, 1909. In the stool he found occult blood, which disappeared under the influence of a Lenhardt diet. Blood was found in the stool occasionally despite all treatment. Five weeks later the patient vomited a cupful of bright red blood. She was much weakened in consequence. In the interval there were several slight hemorrhages that occurred every few days. Several weeks later the patient developed an attack of acute appendicitis which subsided after a few days. Last Christmas she had a severe hemorrhage, when she vomited a basinful of bright red blood. An examination revealed tenderness at the left costal margin that was quite severe upon pressure. A slight rigidity was also present. An examination of the stomach contents showed a hyperacidity to be present; lactic acid was absent. The diagnosis of an ulcer occupying the lesser curvature of the stomach was made with confidence.

At the operation the stomach, gall bladder and duodenum were found to be absolutely normal without any sign of organic change. The appendix was diseased and adherent and it was the only abnormal condition that was found to be present; the appendix was removed and the abdomen was closed after a few tubal adhesions were separated. The patient's convalescence was uninterrupted and she has had no disturbance whatever since the operation. Pain has left her and all her symptoms have entirely disappeared. She has not brought up any blood since the operation.

#### Discussion.

Dr. Philip King Brown: The point of interest in the case reported by Dr. Levison lies in the fact

that not only had an ulcer been diagnosed by Boas, when she was 23 years old, but her first symptoms at 18 were diagnosed as ulcer by Rosenheim, in Germany, and, while I have no hesitancy whatever in acknowledging my own failures, it is a satisfaction to feel that I was in good company, having made the diagnosis of gastric ulcer in this case. The point of most interest is the wide range of troubles in which you get blood from the stomach as a symptom. Many of these pathological conditions resulting in hematemesis have nothing to do with the stomach. It is of particular interest that Moynihan calls special attention to the relation of hemorrhage from the stomach to diseases of the appendix. There have been reports upon the same thing by Dieulafoy and also by Rosenheim, who himself recites a case of a perforated appendix in which the surgeon refused to operate, believing that the patient had had a perforated gastric ulcer on account of the vomiting of blood. The patient died and at autopsy a perfectly healthy mucous membrane was found in the stomach, but a perforated appendix was responsible for the entire trouble. In nervous people especially, they call attention to the spasm of the pylorus in connection with these cases. It is now well recognized, and I think is mentioned in the modern text books, that spasm of the pylorus occurs very frequently in appendicitis. Dr. Levison has referred to the fact that pain is very misleading. This is illustrated in our case by the fact that the seat of the pain was in the lesser curvature, and by the fact that there never were any signs whatever of a stasis in the stomach, which leads us to suppose that there was no interference with the outlet of the stomach and that the ulcer was probably in one of the more fixed parts of the stomach, the cardiac end.

I have seen hemorrhage from the stomach in connection with several other conditions. It has been reported, of course, many times in connection with gall stones, and there again the earliest reports are from Germany. Naunyn refers to hemorrhage in gall stones. It occurs very frequently in women in connection with vicarious menstruation, not always with hematemesis, but in the washing of the stomach blood has been found in the stomach content, especially during the menstrual period. Here a point in the differential diagnosis lies in the fact that blood from an ulcer, even in very small quantities, is accompanied by nausea and very frequently by vomiting. The nausea and vomiting may, and usually are both absent in bleeding from vicarious menstruation. Patients so often vomit blood in gastric ulcer that it is frequently difficult to obtain blood in the stools. That was true in the case reported. The stools were examined a good many times and always for two or three days after the vomiting of blood, but it was only rarely found in the stools. The patient was on the Lenhardt diet without meat. She must have gotten rid by mouth of all the blood that occurred.

Dr. E. Schmoll: I think that gastric hemorrhage in connection with cases of appendicitis is very interesting. We frequently find cases where gastric hemorrhage has taken place to such an extent that a diagnosis of gastric ulcer has been made. I remember three or four cases in which I advised operation for gastric ulcer and no gastric ulcer was found. One woman had had repeated hemorrhages over a period of ten years. At the time I was consulted she had vomited about 2½ liters of blood within three days and was absolutely exsanguinated, and the surgeons had refused to operate because of the low hemoglobin. She was put on the Lenhardt treatment and recovered very nicely, gaining about 20 pounds. Two or three months after this we advised operative procedure, as we thought that the ulceration had lasted too long to heal. A laparotomy was performed, but no evidence of ulceration was found. A gastro-enterostomy was performed without any return of the hemorrhage during the last three years. I recently saw a case with Dr. Stillman in a girl about 22 or 23, who had had re-



peated hemorrhages for the past ten years. She had been on the Lenhardtz treatment and her history had been published as one of the successful cases treated by the Lenhardtz method. Three or four months ago she again had a hemorrhage and the symptoms were typical of gastric ulcer; we advised operation. A small thickening in the fundus of the stomach was found; all the glands along the curvature were enlarged and there were some adhesions. However, the mucosa was not thickened. The Finney operation was performed and the symptoms disappeared. Such cases show that we should be more careful in our diagnosis of gastric ulcer, and I think that it should only be diagnosed when the symptoms are absolutely classical. Besides hemorrhage there should be a distinct history of pain with distinct relation to food and position of the patient. I have found it to be one of the most reliable signs of ulceration if turning a patient to the opposite side the pain diminished almost immediately. Most patients can sleep on the left side when they cannot lie on the right side at all.

Dr. E. Rixford: Dr. Brown said that gastric hemorrhage in connection with appendicitis is not an unusual occurrence, but it seems to me, judging from a considerable experience, that it is very rare. I have yet to find in my own practice a single case in which there has been anything at all comparable to gastric hemorrhage in connection with appendicitis. Of course, since Moynihan's article and the work of Mayo and a good many other abdominal surgeons, the evidence of pyloric spasm as indicating something wrong lower down in the bowel has become rather full, and we are inclined to look upon it as a physiological protective process. That such a spasm may be sufficiently vigorous to cause bleeding from the mucous membrane is perfectly possible and probably there is something more to it than that. There has recently been some work done with regard to congestion of the base of the right lung as an early symptom in appendicitis. One of our own students here recently had a gangrenous appendix and when examined by the clinicians it was a question whether his trouble were not really a beginning basal pneumonia of the right lung. There was distinct evidence of congestion which all cleared up after the removal of the gangrenous appendix. I have had one case in my experience which might be mentioned in connection with this, though perhaps the connection is rather remote. The patient was brought to the hospital suffering from symptoms of renal or ureteral calculus; there was hematuria and localized pain, with very little, if any, muscular spasm on the right side of the abdomen. The diagnosis of renal calculus seemed justifiable. Examination and washing out of the bladder by a prominent specialist failed to find any calculus. His opinion was that the bleeding was due to a calculus in the ureter, probably located at a point where the pain occurred. Incision over this region by myself showed a very much inflamed appendix, not lying very far from, though not adherent to the ureter. Removal of the appendix was followed by a complete subsidence of the hematuria. Whether these phenomena of congestion have any relation with the phenomenon of bleeding I am not prepared to state. The thing is certainly suggestive.

Dr. W. E. Garrey: We know the effect of absorption of toxins on the condition of the cells of the kidney and the appearance of blood in the urine; it might be well, in the cases of the type under discussion, to have a histological examination made of the mucosa of the stomach to determine whether or not there is any pathologic change in the secreting cells of this organ. In connection with the recent work done on internal secretions, substances have been found along the whole alimentary tract which have an effect upon the whole metabolism of the body. I recently saw some of the results of work done by Lewis and Mathews on the duodenum, showing that death resulted from removal of certain parts of this structure, but had no relation whatever to the surgical operation itself other than the re-

moval of the secretions. The death took place seven days after the operation with definite toxic symptoms which these workers attributed to the removal of a necessary internal secretion. A considerable question has been raised as to the possibility of the appendix having such an internal secretion. We know there are substances which are secreted in the upper portion of the alimentary tube not found in the lower part, and vice versa—a consideration which we ought to bear in mind as possibly related to the conditions reported by Dr. Levison. Other facts have been brought out by Moynihan's observations on the movements of the stomach, which are the first clinical corroboration of Cannon's experimental work, in which he shows that the peristaltic movements of the stomach begin toward the antrum and continue through the pylorus. The antrum is the most motile part of the stomach and this is the only clinical report of this fact I have seen.

### A METHOD FOR THE DETERMINATION OF THE PUS IN DISEASES OF THE ACCESSORY CAVITIES OF THE NOSE.\*

By HENRY HORN, M. D., San Francisco.

When a patient comes to us with a fever, an acute frontal headache, a forehead which is exquisitely tender to pressure and an examination of the nose reveals thick yellow pus in the region of the middle turbinate, we can say with a fair degree of certainty that we are dealing with an acute inflammation of the ethmoid cells and the frontal sinus.

When we have a patient who complains of a purulent discharge from one side of the nose, transillumination of that side gives a black shadow and the other side is perfectly clear, and an examination of the nose shows pus coming down over the middle of the inferior turbinate, we can also with a fair degree of certainty diagnose an empyema of the antrum of Highmore on that side.

Suppose, however, we have a patient who complains of a chronic nasal and pharyngeal catarrh, indefinitely located headaches, dyspepsia, and a general run-down condition, and we can discover no tenderness over the frontal region. We examine the nose and note nothing of any importance. Perhaps a few crusts, a little atrophic condition of the mucus membrane, but no pus, and no swelling or discharge of any kind.

Less than five years ago a diagnosis of chronic catarrh would have been made, and the patient would have been sent away with a prescription for a nasal spray. Perhaps we might have had our doubts as to the accuracy of our diagnosis, but repeated examinations would have only revealed exactly the same conditions. We would, in other words, have reached the limits of our resources. Today we are in an entirely different position, and the help has come to us largely through the use of negative pressure or suction.

An ocular demonstration is what we have when we make a successful diagnosis by means of suction. We not only see the pus ourselves, but can show it to the bystander. Many a "doubting Thomas" have I brought to the operating table, when I could demonstrate to his own sense of smell the foulness of the pus sucked from his own nose.

The method of diagnosis which I will show to

\* Read at the Fortieth Annual Meeting of the State Society, Sacramento, April, 1910.

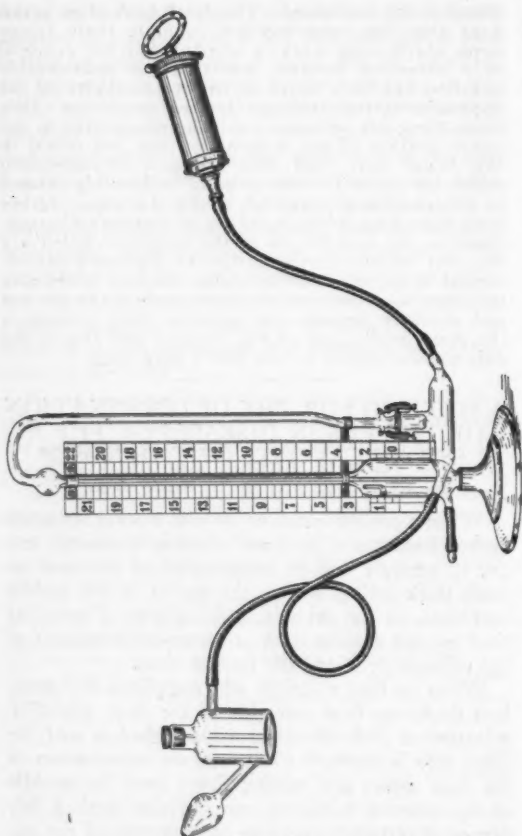


Figure 1.

you, and all the apparatus, is the result of my experiments while working as an assistant under Geheimrat Walb of Bonn, Germany. The facts which I will relate to you have been proved over and over again by myself and other investigators.

The historical development of the subject of the diagnosis of nasal accessory cavity disease, by means of negative pressure, would not interest you. The name of Sonderrmann is no doubt familiar to all. His first important article was published no longer ago than 1905. He invented an airtight rubber mask which fitted over the mouth and nose, and by means of a pear-shaped rubber ball, negative pressure was brought about. He was seeking a cure for ozena, a thing which has not yet been found. In his various later publications he called attention to the value of the method in the diagnosis of all forms of accessory cavity disease.

The whole matter was, however, in an unsatisfactory state. The Sonderrmann mask was dirty, impossible of proper sterilization, and sucked from both nostrils at once. The strength of the ball varied with its age, maker, condition of the rubber and many other factors. In a large proportion of the patients the machine would not work, and with a man wearing a beard or mustache it was unavailable. There was no way to determine how much strength one was using or how much was necessary.

The disadvantages of the various nose pieces then in use and the fact that no way had been sug-

gested of measuring the dosage, led me to the development of the present system, and after three years of experimental work covering thousands of experiments in every variety of accessory cavity disease, both acute and chronic, Walb and myself published an article<sup>1</sup> in which we were able for the first time to show:

1. A mercury manometer by which the dosage could be measured.

2. A nose piece which overcame all the objections existing in the other forms.

3. A metal pump, whose force remained forever constant and enabled us to carry out the procedure every time in every case.

The manometer (Fig. 1) is mounted on a heavy foot, and carries a metal scale divided into centimeters. The mercury is held in a chamber so constructed as to eliminate the possibility of the mercury being blown or spilled, no matter in what position the apparatus is carried. On the right is a small protection chamber connected with the machine by means of a movable, ground glass joint. This chamber protects the apparatus from any sudden movement of the patient and catches all moisture which collects in the tubes or pump.

The nose piece (Fig. 2) is made of glass, easily sterilized and can be corked and put away for an examination of its contents. The olive tip fits any nose, and the little projection on the outlet prevents any secretion from entering into the rubber tube.

The pump which I use is the ordinary, medium sized Bier's suction pump. Previous to the publication of our article, there were nothing but rubber balls spoken of in the publications concerning these cases. Their disadvantages were numerous. In a series of experiments in which I compared the various makes on the market to the metal pump, I found without exception that the balls varied in strength, with their age, amount of use and place of manufacture. The greatest objection, however, to the rubber balls was, that after obtaining a temporary suction, by squeezing the air out, the ball must be released, and in that instant the soft palate drops back and the negative pressure is again lost. With the metal pump on the other hand, because the amount of power far exceeds anything we can use, and the recovery of the piston is so rapid, after once bringing the soft palate up by phonation, swallowing or any other method that is chosen, we have so much reserve force left in the syringe that the palate can not drop back. In this way we are able to carry out the procedure every time with a new patient, whereas with the old method we had over 50 per cent of failures at the first attempt.

The method of using the apparatus is extremely simple. In order to get a good result, however, one thing is absolutely necessary. It is very difficult to remember, after looking into a nose, the exact location of every crust, drop of pus and bit of secretion. Over and over again one will suck secretion from an accessory cavity and then declare that it was already present in the nose. A preliminary douching of the nose with a quart of salt solution is of the greatest importance. Even after this douching the nose must be examined, and every particle of mois-

ture or secretion wiped away. If, in an acute case, there is any doubt as to the patulousness of the ducts, a preliminary cocanization is of great importance.

The nose now being clear of visible secretion, we instruct the patient to hold the olive tip in the side

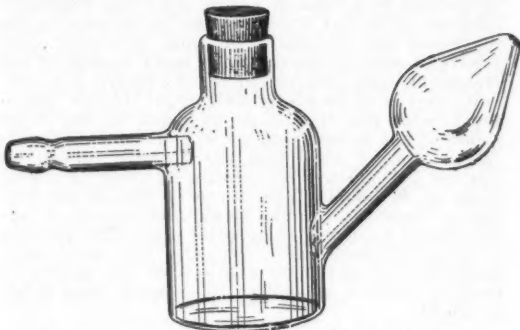


Figure 2.

to be examined and to close the other nostril with the finger. (Fig. 3). Care must be taken that the tip does not come in contact with the side of the nose or the septum. If this is the case, then the manometer will immediately show a high reading, there will be no subjective symptoms on the part of the patient, and if the finger which is holding the nostril closed is loosened, the pressure will remain high as before. (Fig. 3) The patient must be told to sing a loud and high e-e-e-e-e-e, which has the tendency to throw the soft palate against the posterior wall and make the naso-pharyngeal cavity a closed space. At the same time the pump must be quickly brought into use, but the height at first must not exceed 7-8 cm. The nose is then examined, and if no secretion is seen, the procedure is repeated with an increase up to 10 to 15 cm. and carried out for 15 to 30 seconds. This procedure is repeated if necessary up to 20 cm., or until one is convinced that no secretion comes from the region of the anterior end of the middle turbinate.

If now the sphenoid cavity is suspected, and the experiment gave no results with the patient's head held upright, we must bend the head far over toward the breast and repeat the manipulation. If now we find secretion coming between the middle turbinate and septum, we can be fairly certain that we have to do with an isolated empyema of the sphenoid cavity.

If the antrum of Highmore is alone suspected, then the head must be bent far over toward the sound side. Here particular attention must be paid to secretion appearing far back at the posterior end of the inferior turbinate. I have had several cases where the secretion showed only in this one place, and without a very careful examination with a brilliant illumination it was apt to be overlooked.

So far we have only spoken of the method in connection with diagnosis. In the treatment of acute cases of empyema of the frontal sinus and the ethmoid cells, it is of great benefit. Here one must be careful not to use a pressure higher than 7 to 8 cm.

This suction carried out twice a day in combination with application of moist heat has completely cured several cases within 48 hours. The relief from pain is sometimes instantaneous and the patient always feels better after the first treatment.

Its use in chronic cases can briefly be summed up as follows: By means of the suction treatment you remove more secretion in the few minutes that the treatment is being carried out, than can be drained away by natural means in twenty-four hours. I have never cured a chronic case of frontal sinus trouble where the mucus membrane was thickened and polyposis, and never expect to by strictly conservative measures. However, if free drainage helps in the recovery of these troubles, then suction must be a large factor in the betterment.

The method of suction finds its greatest use in the after treatment of operated accessory cavity troubles. In a paper before the German Laryngological Society,<sup>2</sup> I reported 24 Killian operations. The time of healing was as follows:

- 6 cases were completely healed in 5 to 8 days.
- 11 cases were completely healed in 10 to 14 days.
- 3 cases were completely healed in 21 days.
- 4 cases were healed in a much longer period.

Time does not allow an analysis of these cases. It is sufficient to say that all the delayed cases were complicated with ozena, and the condition of the mucus membrane had much to do with the apparent delay. The reader can refer to the original works for more detailed information.<sup>3</sup> It must be apparent to all that by this method a new factor has entered into the after treatment of this class of cases. By means of suction a perfect drainage is carried out from the time of the removal of the gauze drains up to the time that the case is healed. It has a tendency to prevent the formation of granulations around the drainage openings into the nose, and therefore the closing of these openings takes place much more slowly.

Two points were brought out during the course of my early experiments which are of great importance. I was able to show experimentally that too great a pressure in acute cases may cause a bleeding from the mucous membrane of the sinus itself. A case of acute empyema of the frontal sinus was treated with 7 cm. pressure, until the cavity was thoroughly evacuated of its contents. A pressure of 18 cm. was used for a period of about a minute. The next day a pressure of 7 cm. sucked from the frontal sinus a clot of blood which approximated the shape of the sinus. The bleeding could only have come from the mucous membrane lining the sinus, because the nose was first cleansed with a preliminary douche and then carefully examined.

The second point, concerning the importance of which I am yet in doubt, is as follows: I have found what might be called a pathological index for the nose of every patient. That is, at a certain height of pressure we obtain bleeding from the mucus membrane of the nose. This height varies in different individuals and in different classes of nose diseases. As yet I have been unable to formulate any law to cover the matter, but think it shows that in using negative pressure we must have some sort of an apparatus to measure the pressure with.



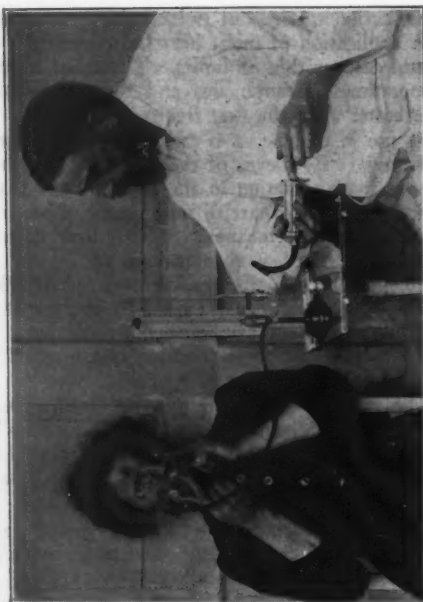


Figure 3.

To recapitulate:

1. By means of this method we are in a position to make a more exact differential diagnosis than was formerly possible.
2. The suction treatment gives a positive result in the treatment of acute cases and in chronic cases assists nature in the reparative work.
3. To carry out a suction treatment in a proper manner it is necessary to have some sort of a manometer for measuring the amount of pressure and the dosage.
4. A constant pressure is only possible with a metal pump or a water pump.
5. Too great pressure is dangerous in acute cases.
6. By the use of suction, the after treatment of the Killian operation and other operations on the accessory sinuses can be considerably shortened.

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#### Discussion.

Dr. Kaspar Fischel, San Francisco: Since Dr. Horn mentioned that I would speak of the value of X-ray pictures, I will say that I do consider the X-rays a valuable diagnostical help. I do not think that we should rely on the X-rays entirely, for it is a bad practice on any one symptom or any one aid. We should make use of every means for diagnosis. It is not true that X-ray pictures are for the rich alone; the X-ray man who does my work will, with great pleasure, take pictures for those not able to pay. Every one of you, I am sure, can have an X-ray picture taken for the poorest patient. I think this apparatus of Dr. Horn's is a most excellent one which he has worked out very carefully. I find my method of simply using a syringe directly on the nose a very crude one. Dr. Horn did not mention that we can pump the pus from the antrum by turn-

ing the patient over to the other side. As I had at times difficulty in exactly locating the point where the pus came down from the frontal sinus, I had an instrument constructed on the principle of Siegel's Oscope, which enables me to look into the nose while the pump is applied.

Dr. William Ellery Briggs, Sacramento: I have been very much interested in this demonstration. Last summer I had the pleasure of seeing Dr. Horn's instrument in a clinic in Berlin, and I was impressed with the idea that it was a step in advance in the diagnosis and treatment of sinus troubles. Any means of making our diagnosis more certain or our treatment more efficient in these obscure and difficult cases is to be gladly welcomed. If this instrument helps the rest of us as much as Dr. Horn thinks it has helped him, we will all be very thankful to him. I hope that the doctor's enthusiasm has not led him to overestimate its effect in curing cases in 48 hours. The X-ray is one of the best aids in diagnosis, but like many other means, it cannot always be depended upon by itself. The methods of exact diagnosis are constantly becoming more easily applied and more essential in this branch of medical practice, as well as in so many other fields of study.

Dr. Cullen F. Welty, San Francisco: I have been very much interested in what Dr. Horn has to say; however, I will have to make a protest. In the large majority of cases pus can be demonstrated in the middle meatus or the olfactory fissure by simple cocainization and waiting 15 minutes. All that this suction apparatus can do in the diagnosis of affections of the accessory cavities is to find pus following suction in one of the aforesaid places. When pus has been demonstrated beyond a question of doubt, you are practically in the same situation that you were from the ordinary examination, and if I am not mistaken will often overlook an affection of the Antrum of Hymore, because of the position opening. I am almost confident that the probe puncture will give much more reliable information. The illumination test gives you accurate results in perhaps 80%. The suction apparatus, I am confident, will not equal the latter, while the probe puncture gives you absolutely accurate findings in 100%. If the Antrum of Hymore can be excluded, it is indeed difficult to determine whether the pus is from the frontal sinus or from the anterior ethmoidal cells—in fact, they are more often associated than otherwise. Again you will have to resort to washings, introduction of sounds, and more particularly, I think, to the X-ray picture. The same position holds for the sphenoid sinus and the posterior ethmoidal cells. To illustrate the point in question, I recently did a Denker operation on the Antrum of Hymore,—was full of polyps and very offensive pus. In time the antrum was entirely healed, but pus continued to appear in the middle meatus. I found by more thorough examination that the anterior ethmoid cells were diseased. This has happened numberless times to world-famous operators. I go into detail to accentuate the importance of a most thorough examination, and when we need it most, this suction apparatus will be sure to fail. Up to the present time, surgeons could not speak with assurity as to the ultimate outcome of a radical sinus operation. Dr. Horn reports quite a few cases that he treated by this instrument following operation; if these observations are correct he has indeed put an instrument at our disposal that will cure all the cases,—this will result in one of the greatest achievements that has been made in nasal surgery since the advent of the Killian operation. While I do not like to question the results, I am very anxious to try this apparatus on some operated cases.

Dr. G. P. Wintermute, Oakland: I would like to ask Dr. Horn if he depends entirely upon this instrument in cases where there is very little pus, or in cases where pus is not visible, and also in his antrum cases. Can it suck the pus from the floor

of the antrum, or does he place the head in a certain way in order to get the pus out?

Dr. J. Dennis Arnold, San Francisco: I quite agree with most of the remarks which the speaker has made, and we should be the last ones to minimize the advantages of any instrument that increases our diagnostic resources. Dr. Horn has evidently devised an instrument simple in principle and of a considerable degree of efficiency. I am sure that it will be very helpful, but it cannot be relied upon alone. Richard Thomas, of Baltimore, deserves the credit of originality in this matter. His instrument had an olive-shaped nostril stop and a strong metallic pump. I saw it first in a case of Dr. Thomas' and afterwards used it on two cases of my own. One patient suffered so much pain from its application that he refused to permit me to use it a second time. Dr. Thomas told me that in three cases he thought he had ruptured the ear drum. The instrument is a good one as it stands, because with the manometer attachment one can obviate the danger of using too much force. In the diagnosis of antrae disease, the instrument is hardly needed, its chief sphere of usefulness will be in empyema of the frontal and ethmoid sinuses. I am personally of the opinion that in the vast majority of the cases of infection of the frontal sinus, the ethmoid and sphenoidal cells are also affected. In so far as the value of this instrument is concerned in regard to after treatment of Killian operation, I have had no experience.

Dr. Henry Horn, San Francisco: That the X-ray is a help in the diagnosis of these conditions, we will gladly admit, and as Dr. Pischel has said, it is a help to be used in combination with every other known clinical method. Negative pressure has the same function; it is an aid to diagnosis, and nothing more is claimed for it in this connection. The value of certain positions of the head to cause the pus to flow more freely has been worked out many years ago by Sondermann, and is a method which would naturally occur to any one. Dr. Pischel's method I tried and was obliged to give up. Of course the most exact method of locating pus in the antrum is to puncture it and wash it out. I repeat, a very necessary preliminary procedure in making a diagnosis by means of suction, is a thorough douching of the nose, so that no secretion of any kind remains behind to complicate the field. A gentle suction will bring to light a single drop of pus, and then it depends on the clinical experience of the man himself to locate it.

### UNUSUAL MANIFESTATIONS OF DEFECTIVE FEET.\*

By JAMES T. WATKINS, M. D., San Francisco.

(1). Lately a young lady was referred to me by Dr. Krotoszyner. Another surgeon had removed her coccyx for a persistent "coccygodynia." Despite the removal of the coccyx, the symptoms persisted. A careful physical examination revealed nothing abnormal except pronated feet. These had never caused her discomfort. Despite mild protests from the patient, the static error was corrected by supplying specially constructed shoes and insoles. At once her symptoms, typical of coccygodynia, disappeared and have not returned.

(2). A young man was sent to me by Dr. Breyfogle because of pain at the inner sides of his knees made worse by walking. The patient prided himself upon his powers as a pedestrian. Examination showed knees which, except for some creaking during flexion, appeared to be normal. The feet were

massive but somewhat pronated. They had never occasioned discomfort. An insole different in type from that used with the first case was prescribed. Immediately the pains in the knees cleared up and the patient was enabled to resume his long tramps.

(3). A surgeon referred to me a lady whose symptoms had seemed to call for radical gynaecological operations. The operations had not brought relief, however, to the anticipated degree. In searching for further causes the surgeon noted that the patient had badly pronated and relaxed, flabby feet, a defect of which she was not aware. On his invitation, I prescribed massage, resistance exercises, and proper shoes. Under this treatment the patient's symptoms disappeared.

(4). A lady consulted me because of a backache from which she had suffered more or less persistently from her fifteenth year. Prior to that she had had, so she said, "hip disease," and had worn a brace of the Sayre type. A most careful physical examination revealed nothing abnormal. The feet were somewhat pronated but well arched. An opportunity to observe her gait at an unguarded moment was sought. It was then noted that the patient walked with her feet markedly abducted.

The leverage actions of the feet on the ankles were little used, the former being removed from the ground and advanced through an exaggerated flexion at the knee. No discomfort had been felt in either feet or legs, however. Massage, walking exercises, and shoes and insoles contrived to combat the tendency to pronation gave immediate relief. In this case it has been necessary to modify the insoles once or twice since.

(5). With Dr. Pettit I saw in consultation a young lady who, immediately upon arising from a protracted attack of typhoid fever, had suffered acutely from pain referred to the hip joint and to the outer side of the thigh. This had been regarded as a post typhoid neuritis. Ordinary distraction by weight and pulley had given temporary relief. Examination revealed nothing abnormal in hip or spine, though the X-ray seemed to show a short femoral neck. The ligaments of the knee joint were loose and permitted side to side motion. The foot itself was markedly pronated. A shoe was prescribed which would tend to throw the weight to the outer side of knee and foot. Relief was immediate and persisted.

(6). A colleague asked me to see with him a young man who had been suffering for some time with pain in the back and extending down the outer sides of the thighs. The condition had been said to be "osteo-arthritis" of the spine. Physical examination revealed a massive "short coupled" young man with broad, rather flat feet. The spine was rather inflexible; side bending seemed to be a shade less free on one side than on the other. But the man was a waiter by occupation, and it was deemed possible that this latter feature might be the result of some occupational distortion. Waiters are peculiarly liable to foot troubles, so it was thought expedient first to treat the more obvious defect. This was done by means of appropriate shoes and insoles, and thereupon the man's disabilities disappeared.

(7). Lately I saw a similar case, and very nearly

\* California Academy of Medicine, June, 1910, Meeting.

made the same slip of mistaking a static foot error simulating an intractable double sciatica for an osteo-arthritis of the spine. Relief was had as soon as proper shoes were worn.

The preceding cases are selected to emphasize the importance of always being on the outlook for what is called "pronated foot," a condition which is capable, without presenting subjective local manifestations, of giving rise to remote symptoms mistakable for those of lesions so dissimilar as sciatica, coccygodynia, uterine relaxation and allied disorders, a variety of backaches, and spinal osteo-arthritis. The importance of being prepared to make this diagnosis is brought home to us with renewed force when it is recalled that properly the treatment of those defects for which pronated foot may be mistaken is either operative or mechanical, and that, through such a diagnostic error, the patient may not only be condemned to protracted loss of time and to great bodily discomfort, but to mutilation and even to the endangering of his life.

The explanations of the various subjective symptoms of pronated foot are to be found in the disturbances it inaugurates in the normal mechanics of the erect attitude. Each of you will, on a moment's reflection, recognize there is an attitude in which he stands erect without apparent muscular effort, and that any deviation from that attitude can be maintained only by a constant and wholly disproportional muscular exertion. The explanation of this easily recognized fact is also the explanation of the remote symptoms of pronated foot. To elucidate this let us turn to the skeleton. You will observe that the foot taken as a whole, is a lever of the second kind, the weight being placed between the fulcrum at the toe and the power at the heel. It presents two longitudinal arches: a low, well braced less elastic external arch, which in many normal feet is no arch at all, and a high, ill-supported flexible inner arch. A transverse arch appears in the forefoot only during suspension. In the mid-tarsal region this is constant, but, since it has no internal abutment, has more the character of a flying buttress. Note further that the anterior pillar of the longitudinal arch, comprising the forefoot, is springy, made up of numerous small bones, and descends gradually to a broad expanded base. Its function is manifestly a balancing one. On the other hand the posterior pillar, or root of the foot, is short, made up of a few massive bones, and descends steeply. Manifestly its function is one of weight bearing. As a matter of fact, it has been determined that if a man weigh 150 pounds and stand in his bare feet, 106 pounds will be transmitted through his heels and only 44 pounds through the anterior portions of his feet. Of course, as the heel is artificially elevated, more and more weight is thrown on the forefoot.

So much for each foot taken separately; taken together they form a dome, the best braced structure known to architecture, and upon the apex of this dome is perched the body weight. If for any reason the feet roll inward, causing their outer edges to be elevated from the supporting surface, the body is no longer supported upon a dome, but upon two comparatively unstable arches.

Of the four principal motions of the foot, the up and down motions take place in the joint above the astragalus, while the side to side motions take place principally, though not wholly in the joint below the astragalus. Plantar flexion and supination tend to shorten the foot and to elevate the arch; dorsal flexion and pronation tend to elongate the foot and to depress the arch.

If, in place of this dried skeleton, I had a fresh specimen with cartilages intact, you would be able to see that, as John Dane has pointed out, in normal standing, first, a rotation outward of the leg occurs, while the internal malleolus travels inward

and a little downward; and second, that the upper surface of the astragalus does not look directly upward, but upward and outward. Thus it comes about that in the erect position the articulating surfaces of the ankle joint, instead of being in the same plane, are in different planes both horizontally and from before backward. That is, they are locked, and it is possible to stand erect without excessive muscular strain.

Now in the condition which we recognize as "pronated foot," the foot itself is the fixed portion, since it is applied to the floor, and actually an exaggerated rotation inward of the leg takes place; this tends to bring the articulating surfaces of astragalo-tibio-fibular articulation into the same plane from before backward at the same instant that the associated descent of the astragalus in its attempt to slide down inward off the back of the calcis, makes its upper surface approach the horizontal. In other words, **the act of pronation unlocks the ankle joint**, and the leg may be maintained erect upon the foot only by the constant exercise of positive muscular effort. To the consequent exhaustion and muscular irritability may be ascribed the subjective symptoms noted in ankle and leg. Again, in the knee the last act in full extension is a rotation backward of the internal condyle about the external condyle. Consequently the two articulating surfaces no longer lie in the same frontal plane and the joint is locked.

The effect of pronated foot on this mechanism is as disastrous as it was seen to be on the locking of the ankle. For the internal rotation which occurs in the tibia causes the upper articular surface of that bone to continue in the same frontal plane as that occupied by the lower end of the femur. Therefore the joint remains unlocked and the femur is maintained erect upon the tibia only by constant positive muscular effort. There may be a resultant fatigue and spasm of the muscles of the thigh. Particularly is this to be noted, as in one of the cases I reported to-night, as an extreme sensitiveness over the insertion of the internal hamstrings.

Lastly your attention is directed to the hip joint. You will note that the femoral neck is directed upward, inward and a little forward, so that the head shall enter the shallow cup of the acetabulum. The center of gravity of the body lies somewhere in a plane behind the frontal plane, joining the two femoral heads, and a rotation backward and downward of the trunk on the femora would be inevitable were it not for the vastly strong inverted Y ligaments against which the femoral heads impinge at the beginning of this motion. But the very fact that they do so impinge explains how it is possible for us to maintain the trunk erect upon the thigh without muscular strain. The influence of pronated foot upon the mechanism of the hip-joint is not less injurious than it was in the ankle and in the knee. In the effort to lock the knee-joint the normal inward rotation of the femur at the knee was exaggerated. The effect of this exaggerated motion at the hip-joint was first to relax the strain upon the insensitive Y ligament and to transfer to the muscles the task of maintaining the trunk erect upon the femora; and second, to separate abnormally the origins and insertions of the external rotators of the hip. When we stop to reflect upon the fact that the psoas-iliacus muscle not only holds erect the lumbar spine and attaches to the lesser trochanter, but that embedded in its substance is the lumbar plexus; and upon the further fact that an equally intimate relation exists between the external rotators and the points of emergence of the sacral nerves, nothing will seem more inevitable than that exhaustion and spasm of these muscles should set up sympathetic irritations of these nerve trunks which would manifest themselves as painful sensations referred to the organs of regions to which these nerves were distributed.

That such was the fact my case histories have indicated, and that the primary cause was pronated foot may be regarded as clinically proven, since when the static error was corrected the symptoms disappeared.



## SOME POINTS ON THE ETIOLOGY AND TREATMENT OF ENURESIS\*

By E. C. FLEISCHNER, M. D., San Francisco.

No one has seen many children suffering from enuresis without asking the question "why are the results of treatment so pre-eminently unsatisfactory?" The answer to this question is that enuresis is essentially not a clinical entity, but a clinical symptom. No one would endeavor to treat headache without attempting to discover its cause; likewise no one would endeavor to remove abdominal pain, without locating the responsible viscus. On the contrary, it is lamentable to note that belladonna or the bromides are usually prescribed in the treatment of enuresis without thought being given to the etiological factor. Unfortunately, many of the cases are purely neuroses, and as such, the cause can not be found, but on the other hand, many are intimately connected with some organic disturbance, and the treatment depends directly on its removal.

The textbooks, unfortunately, fail to call attention to many of the causes of enuresis, and most of them are content to say that if a child with enuresis has adenoids, remove the adenoids; if he has phimosis, circumcise him, and he will often be cured. It is perfectly plain that too little attention has been paid to the connecting link, between these apparently etiological factors, and the resulting condition. Some conditions of the nervous system must have considerable bearing, otherwise many more children with adenoids and phimosis would have urinary incontinence.

Given a child with malnutrition, or pronounced secondary anemia, the whole body is carefully examined to determine the cause of the condition. Given a child with enuresis, and usually only the prepuce and naso pharynx are examined. This explains why treatment so often fails.

What, then, should be the procedure in the examination of a child with incontinence of urine? Primarily, the urine should be examined, and this examination does not mean simply an albumen and sugar test with the ordinary microscopical examination; highly acid urine has often been credited with causing enuresis; but the cause of the high acidity usually remains concealed. The most frequent cause of high acidity of the urine is a colon bacillus infection, and bearing this in mind, no one is justified in treating enuresis without first culturing the urine. Twenty per cent of the cases of enuresis that presented themselves at the Cooper Medical College last year were caused by colon bacillus infections of the urinary tract.

Diabetes in children is often accompanied by enuresis, and this condition should always be thought of in treating a case.

The presence of calculi-polypi and tuberculosis in the bladder of children is not very common, and in eliciting the history, their occasional occurrence should prompt the question as to pain on urinating and hematuria.

It will be only necessary to briefly mention the importance of discovering the presence of abnormal

conditions in the external genitals of children suffering from enuresis. In this connection may be mentioned vulvitis and vaginitis in girls, and urethritis and balanitis in boys.

The rectum, when irritated, is frequently a cause of urinary incontinence in children. This is best exemplified by the frequent occurrence of enuresis in children suffering from oxyuris. A rectal polypus, or, rarely, a foreign body in the rectum, will keep up a persistent enuresis for months, which facts show the importance of examining the feces and rectums of these children. After a local examination of the genito-urinary and lower alimentary tract has been made and the urine and feces carefully investigated, then the condition of the central nervous system should be looked into. The following interesting case illustrates the importance of this procedure.

A child nine years old was brought into the clinic with a history of enuresis from birth. He had been circumcised without result. On examination, it was noted that there was a persistent priapism. There was no paralysis anywhere, no disturbance of the reflexes or sensory nerves, no history of injury was elicited, but the priapism suggested some spinal cord disturbance, and the examination of the back showed what looked like a fatty tumor over the sacrum. Palpation, likewise, gave the impression of a lipoma, but on further examination it was noted that at its base there was an opening, connected with the sacral canal. This was one of those rare cases of spina bifida occulta, with incontinence of urine and occasional incontinence of feces, but without other symptoms. He had been taken from clinic to clinic, needlessly circumcised, simply because the primary cause had not been discovered. The sudden development of enuresis in older children is suggestive of tabes dorsalis, or petit mal. W. Spitzmueller (*Medizinische Klinik*, Jan. 3, 1910), reports a case of tabes occurring in a boy of nine, in whom the first symptom was suddenly developing enuresis; and Marburg, of Vienna, has reported a series of such cases. The presence of the Argyll Robertson pupil and Romberg's phenomenon, with a loss of knee-jerk, will clear up this diagnosis. It is, however, much more difficult to diagnosticate petit mal until the typical attacks come on, but it should always be born in mind.

More carefully reviewing these etiological agents reveals two very interesting factors; first, that such causes usually develop after a child has passed the age when he should normally control urination; and second, that they take a large number of the cases of enuresis out of a strict classification of neurosis. *One very practical and important conclusion can be drawn from this, and that is, given a patient who has learned to control micturition at the proper age, the sudden development of enuresis should cause one to suspect some distinct pathological condition as an etiological factor.*

Granting that many cases of enuresis have definite causes, how is one to explain the innumerable cases in which the history is obtained that the child has not been able to control his urine since birth? Usually, it is described as a neurosis. That is only one of the many loopholes that medicine affords us for saying "we do not know."

\* Read at the Fortieth Annual Meeting of the State Society, Sacramento, April, 1910.

So much has been written, concerning the physiology of the thyroid gland that one hesitates in assuming that one of its many functions should consist in influencing the muscles that control micturition. Anything, however, that offers any hope of improving the condition of these unfortunate children, should be investigated, and this is the attitude that most men assumed when Williams reported his first cases in the *Lancet* May, 1909, in an article entitled "Adenoids, Nocturnal Enuresis and the Thyroid Gland." He reports twenty-five cases treated with thyroid extract, in some of which the results were brilliantly successful. His attention was first called to the possible bearing of the thyroid gland by a case in which the adenoids were removed to stop enuresis, but after which operation the enuresis was aggravated. He thought of the relation of the thyroid gland and lymphoid tissue and deduced that in the removal of the adenoid there had been a reduction of the thyroid secretion, and he decided to try the extract therapeutically. He used one-half grain of the extract twice daily and his result was very excellent. He then used it in a series of twenty-five cases, and of this number, seven were cured, four were lost track of, one failed completely, and thirteen had ameliorated, which were not under treatment long enough to draw conclusions from. He used from one-half grain twice daily, to two and one-half grains twice daily, watching for symptoms of hyperthyroidism, tachycardia, tremor, excessive perspiration, diarrhea, etc. Williams reports a case of malnutrition, after nephritis, to whom he gave thyroid in large doses; as a result of this, the boy got enuresis, and he concluded that too much thyroid, as well as too little, could cause this condition. To say the least, Williams' conclusions are not convincing. Primarily, if either lack of thyroid, or excessive thyroid is the cause of enuresis, why do we not observe the same condition in cases having undoubted disturbance of this gland; and secondly, his conclusions are drawn upon too little satisfactory evidence.

Nevertheless, with the object of determining the value of this treatment, which could be no worse than many others that had been tried, it was decided to use thyroid extract in the children's clinic at the Cooper Medical College in those cases in whom no etiological factor could be found after careful examination. Ten cases were treated as follows: One-quarter grain thyroid extract was given three times a day, increasing to one-half grain three times a day; in addition, two measures were prescribed that will be mentioned more in detail later. Fluids were not allowed after 4 P. M., and the foot of the bed was decidedly elevated at night. Of these ten cases, eight improved; but they have not been under observation long enough to draw any definite conclusions. Furthermore, the influence of the posture and dietetic treatment must not be overlooked. Two did not improve. Of the eight who improved, in four cases circumcision had been previously performed without result. The future alone will prove the efficacy of thyroid in these cases. It is planned during the next year to treat the cases of enuresis as follows: One case will be given thyroid alone. The second case will be treated posturally and dietetic-

ally, and the third case will be given tonic treatment; a further report will be made after more children have been examined. It seems reasonable to call attention to two points that may help to prevent these cases of enuresis in which the children never learn to control micturition. An adherent prepuce, doubtless, has some effect on the minds of very young babies, and may be able to keep up some reflex irritation, whereby urination remains involuntary, so that every obstetrician should make it a part of his duty to forcibly retract the prepuce on the fifth day after birth. Not only should he do this, but he should instruct the mother to do it at least twice a week, up to the time a boy is five years old. To say the least, it is conducive to cleanliness, and circumcision would be a rare operation if this were systematically done. In addition to this it seems reasonable to assume that if more attention were directed to training young infants to control the bladder, that enuresis would be much less prone to occur. Every one knows of children who, before they are one year of age, become properly trained. It is too often the practice to let children go on two or three years without training, with the assumption that when they know better, they will adjust themselves. This is a misconception, because the younger the child, the easier are habits formed, and this function must unquestionably come largely in the realm of habit.

It is not within the province of this paper to enter into the details of the treatment of all conditions that may cause enuresis, but considering the very delightful results that may be obtained in those cases of enuresis due to colon bacillus infection, it seems advisable to outline the treatment employed. The diet should be regulated to avoid irritating and stimulating foods. Fifteen to twenty-five grains of urotropin should be given during the course of twenty-four hours, well diluted in water. This will usually stop the enuresis, but to clear up the bacilluria, it is necessary to prepare an autogenous vaccine, and to give an injection of this every fourth day. The dose, at first, should be small, five to ten million, and increased as rapidly as possible up to fifty million, always giving less than a quantity that produces a marked reaction, as evidenced by rise in temperature, rapid pulse, headache, prostration, nausea, etc. The history of the following case is illustrative: H. C., girl seven years of age, was brought into the clinic suffering with enuresis of three years' standing. There was no pain on urination, no hematuria. The examination of the child was negative as regards heart, lungs and abdomen. Nervous system was normal. Feces contained no ova or parasites. External genitals irritated, but otherwise normal. Examinations of the urine showed it highly acid and cloudy. Microscopical examination revealed no pus. Culture on Agar gave a pure growth of colon bacilli. Patient was put upon urotropin, twenty grains daily, and the enuresis cleared up in four days. The bacilluria persisted, however.

Whether the use of thyroid extract is efficacious or not in the treatment of this very distressing condition, only the future can determine, but one thing has been definitely proven, and that is, that the

postural and dietetic treatment are of undoubted value; their action is, naturally, combined. Mothers are advised to give the children no fluid beyond a glass of milk for the evening meal, after four in the afternoon; then they are told to place blocks under the foot of the bed so that that part is raised about eight inches. The object of this is to keep the urine from coming down and irritating the neck of the bladder, and it is often very efficacious.

It is perfectly plain why the dietetic and postural treatment of enuresis should be of value; but to say the least, it is extremely difficult to see what influence the thyroid gland can have over micturition. A report coming from a man of Williams' integrity naturally warrants attention, and it is to be hoped that more experience will prove his deductions to have been well founded. It is to be earnestly desired that the coming year will see the thyroid therapy of enuresis given a very thorough trial, so that we may be able to reach a definite conclusion as to its value. Patients to whom this drug is given should be seen two or three times a week to be sure that no untoward effects are produced. Otherwise the treatment is simple, and if satisfactory, will certainly prove a boon in the therapy of a condition which until now has been very resistant to treatment.

#### Discussion.

Dr. Langley Porter, San Francisco: I have very little to add to this paper. The point of the communication which seems to me to be of particular value is the frequency of colon bacillus infections of the bladder and renal pelvis in children. I have nothing to add on the matter of treatment except this one practical fact, in treating an enuresis we very frequently experience that children have difficulty in urinating when taken up after going to bed. We have instructed the mothers to take these children up one hour after going to bed. It has developed that the child is taken from a warm bed and put on the cold floor, and this exposure to cold causes a reflex action and the child has to urinate again about an hour after being put back to bed. We always have these children kept in bed and given a bottle in which to urinate until such time as the condition of enuresis is remedied. With regard to the thyroid therapy it has not impressed us in the clinic and we do not expect any particular success with it, but we propose to try it for experimental purposes. Another point is that concentration of the urine is very frequently the cause of enuresis. Children are not given enough water to drink, they are given too much milk and too much sugar, meat, proteid and concentrated food in early childhood, and consequently the urine is concentrated.

Dr. W. F. Cheney, San Francisco: First of all I wish to confirm what Dr. Fleischner has said about determining the etiology of this trouble. These cases are so very common that we cannot have any routine and cannot give one plan of treatment suitable to all cases. It is absolutely foolish to plan treatment until investigation has been made as to the cause; but after having eliminated all known causes there remains the largest group of all, in which no cause is discernible. We must have some plan of treatment for this group. I will say nothing about the colon bacillus conditions, but the large group in which no tangible cause can be discovered. These cases are called a neurosis; but stating the thing a little more plainly, it is probably a hyperesthesia of the mucous membrane of the bladder. In this group of cases the plan of treatment that works most satisfactorily is first of all the limitation of fluids after four o'clock, so that the bladder will hold less fluid during the night. Secondly, the limitation of the diet at the evening meal to a small amount.

Also taking the children up after having been put to bed, has a good effect in the majority of cases. The old well tried belladonna remedy can also be given in the form of atropin and is a well established method in the treatment of these cases, and I have had excellent success with it.

Dr. E. C. Fleischner, San Francisco: In calling attention to the thyroid therapy I did so with the object of reporting our results in the clinic during the past year. I am not particularly sanguine over the results. I wish to call your attention to one point in the use of belladonna. It is preferable to give it in the form of suppositories, as it interferes very much less with the appetite and digestive system. The diversity of the treatment in this condition is great, and one hesitates to think that drugs have any great value. In Berlin these children are inverted and held up by the feet for a certain length of time each time they are brought to the clinics for the psychological effect. In the French clinics they have introduced cocain in the sacral cavity and later normal saline solution. The whole subject is important because the cases are so numerous and treated with such great difficulty. I feel that the training of these children will have more to do with the cure than any other single feature.

#### CRIMINAL ABORTION.\*

By J. HENRY BARBAT, M. D., San Francisco.

The desire to prevent conception or to get rid of the products of conception, is as old as mankind. I do not expect to be able to change the condition of affairs as it exists at present, but I do believe that a proper exposure of the methods of the criminal abortionists, and the adoption of laws to prevent them from flaunting their dastardly vocation in the face of the public, would result in saving the lives of a large number of innocent victims, and in preserving the chastity of numerous girls. The extent to which criminal abortion is practiced in the large cities is appalling, and a visit to any of the offices of the advertising abortionists shows them to be reaping a harvest of money by duping their victims or by actually killing the unborn babies.

I am sorry to have to say that the committing of abortion is not confined to the advertiser, but is the means of livelihood of some of the so-called respectable practitioners of medicine. I have even known reputable men to send patients to well known "respectable" abortionists, and subsequently finish the job by curetting the unfortunate patient.

Those who apply for abortions are from every walk of life, from the factory girl to the millionaire's daughter; from the laborer's wife to that of the banker, no class, no sect seems to be above the prevention of conception, or the destruction of the fetus. What has produced this awful state of affairs? How are we going to remedy it?

There are two reasons why men will produce criminal abortions; first for money and second to cover up their own sins, and we find that the thirst

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for gold is the prime cause for the existence of the criminal abortionist.

There are probably fully 50% of those who apply to the professional abortionist, who are not pregnant, but who have simply gone over a few days, usually through worry. These poor creatures are meat for the abortionist, and he has no trouble in restoring the menses and collecting his fee. When a true pregnancy is present, various means are adopted to cause the destruction of the fetus; for instance, one inserts a capsule containing some irritant into the cervix, another passes a catheter into the uterus and leaves it there, another forces a piece of cord which is stiffened by means of varnish into the uterus, and more recently some of the bold-er ones are emptying the uterus surgically.

Two of the latter have elaborate operating-rooms connected with their establishments, and do not hesitate to dilate the cervix and empty the uterus with a curette. They both learned their lesson in the school of experience, at the cost of many lives of their unfortunate clients. After having lost patients by their former cruder methods and almost paid the penalty with their own lives, they cast about to discover a safer and surer method of accomplishing results, and now show their clients how they sterilize their instruments and do their work; but in spite of this they still have a mortality list which is usually due to their gross ignorance of the fundamental laws of asepsis and surgery.

Why do women wish to destroy the products of conception? 1st, to hide the result of their illicit intercourse; 2nd, to avoid the trouble of raising children; 3rd, to save the cost of providing for their offspring; 4th, on account of the difficulty of finding suitable houses to live in when burdened with small babies.

We can of course understand the horrible feelings which must come over a young girl when she has been foolish enough to yield to the blandishments of some conscienceless individual, and subsequently finds that she is pregnant; but might she not have withstood the temptation had she known that no relief could be afforded in case she did conceive?

Many young couples start out with the idea that they do not wish to be burdened with a family for the first few years, and therefore seek the services of the abortionist if the wife happens to go over her period for even a few days. They have not been taught that they are ruining their future health and happiness, and that when they are ready to have children, it is too late, they have spoiled the combination, and conception is almost impossible. Not only has their happiness been marred, but their nervous systems wrecked. There is nothing so wearing on the nerves as improperly performed intercourse, and the couple who are fearing conception with every act, are destroying their nerves and missing much pleasure. These people need to be properly educated, and will usually take advice if the whole matter is correctly explained to them.

Many people claim that they can not afford to have children. In some cases this may be partially true, but in the majority of cases these people feel that they would have to deprive themselves of some

of the luxuries of living if they had to spend some of their money on the young ones. It is a purely selfish matter and we can rarely make these folks change their views.

A few women fear the repetition of a very difficult labor, or have been told by their accoucheur that the next baby would undoubtedly kill them. A little modern teaching usually gets these people to view the matter in the proper light.

A large number of owners of flats and apartment houses refuse to rent to families having small children, on account of the noise and damage to the walls and woodwork of their houses. This matter has been taken up by legislators in some districts and something will probably be done to prevent this most arbitrary ruling against the fortunate possessor of children, and in favor of the professional abortionist.

What means can we adopt to limit this slaughter of the innocents? First by educating the public along proper lines. Show them that the happiest people in the world are those who have large families. The consolation and happiness which is derived from a family of good children transcends all other earthly pleasures. Let me warn those who propose to stop after the first child is born, that they may be laying up stores of misery for themselves in after years. I have repeatedly seen the only child, after arriving at the age of 16 or 18 years, taken from its parents, leaving their remaining years blighted without a possible hope of having any further progeny. What a different picture is presented when there are several children remaining to comfort the parents in their old age.

I will now speak of the second and most important method of suppressing the illicit traffic in human lives. We have succeeded in causing the removal of a large number of advertisements of abortionists from the columns of our daily press, through the agency of the Post Office Department. Without advertisement the professional abortionist can not do much business, and if their income can be sufficiently crippled, some of them will seek more honorable means of making a livelihood, and a corresponding number of babies saved to the world.

The method which we pursued was one recommended by Dr. Rudolph Holmes of Chicago, and is as follows: a couple of female detectives are employed to visit the various advertising abortionists, and get them to consent to perform an abortion. An affidavit is then made and sent to the Post Office inspector who then sends a stop order to each of the newspapers in which the "ad" appeared, informing them that the papers would be refused the mails if the objectionable "ads" were not removed. This was usually effective, but like all criminals the child murderer soon found means to circumvent this order, and in a few weeks we found that Dr. G. W. O'Donnell became Dr. G. W. Olcot, and when we caught him under his new name, he further changed it to Dr. Moore. Dr. Neal became Dr. Page, then Dr. Meal, then Dr. Kaner, then Dr. Gibson. This course necessitated getting new affidavits each time, but we must not expect to clean up the criminal element in any community with one application of the remedy, and it is only by constant vigilance that we can hope to rid the country of these pests.

## REPORT OF OPHTHALMOLOGICAL CASES.\*

By F. A. HAMLIN, M. D., San Francisco.

## Convergent Squint.

Case 1. This case has been selected for presentation chiefly on account of the age of the child.

Convergent Strabismus is usually first observed in a child at about the age of 4-6 years, being the age when accommodation is first put to more active test, and by the mother is often referred to some acute infection just preceding, as the causative factor. Among the causes of squint may be mentioned: 1. Disturbance of relation between accommodation and convergence by errors of refraction. 2. Disparity in length, thickness, or tension of opposing muscles. 3. Size and shape of eyeball and orbit. 4. Influence of angle gamma. 5. Amblyopia of one eye.

Treatment of Convergent Concomitant Squint may be briefly outlined under three headings. 1. Spectacles. 2. Orthoptic training, i. e., the child must see double or be trained to see double and then taught to fuse the double images (this necessitates much time, care and detail).

3. Operative methods. 1. Tenotomy of the Internal Rectus, or 2. Advancement of the External Rectus, or 3. Both.

I will here mention only the first.

Spectacle Treatment. This should include in children, atropin mydriasis with observation and measurement of eyes while the accommodation is paralyzed and pupils large. This will mean Retinoscopy with measure also of corneal astigmatism. Generally, we find hypermetropia, and often considerable astigmatism; therefore, if either of the other methods of treatment is adopted, we may still be obliged to prescribe spectacles.

Prognosis. "Glasses alone will many times suffice to cure," says De Schweinitz. Long and Barret, reporting 102 cases of convergent Strabismus which had worn glasses from six to twenty-four years, conclude that glasses cure 10% quickly and completely; 33% are cured if they continue to wear spectacles.

Age to prescribe Glasses:

Text books when mentioning any age usually say "give glasses to child 5-6 years old or over." De Schweinitz says "as soon as safe to wear." I think we all agree that if a child can be made to wear and look through the lenses, the effect will vary directly as the age of the patient. This little girl came to us four months ago when hardly 17 months' old. We found a convergent Strabismus of O.S. 20 degrees with some tending to alternation. Retinoscopy showed hypermetropia of 2.5D. with an astigmatism of  $\pm 0.5D$ , axis vertical. We prescribed lenses of  $\pm 2.0$ , asking the optician to take especial care in adoption of frames.

The child has worn the spectacles constantly, neither frames nor lenses have been broken and now you can see that the eyes are perfectly straight.

Case 2. This case is presented for three reasons, viz:

1. Its treatment. 2. Because it represents a type which goes to make up a large percentage of our clinical material. 3. Because it is of interest to other departments as these cases have often been to the Children's Clinic, Skin Clinic, and Throat Clinic.

Shall we hastily review some of the chief points concerning phlyctenular ophthalmia or scrofula ophthalmia or phlyctenular conjunctivitis and keratitis.

This is characterized by a circumscribed inflamma-

tion accompanied by formation of one or more small reddened projections or "phlyctenulae." These latter are accumulations of lymphoid cells which soften at their apices and form small ulcers.

Age: Children and youths are especially susceptible though it may occur in adults. A single large phlyctenule in adult gives local appearance of episcleritis.

Subjective Symptoms: The two chief subjective symptoms are photophobia and blepharospasm.

Objective Symptoms: We see one or more small nodules, size of millet seed, reddish and on conjunctiva or cornea or at limbus. This phlyctenulae is surrounded by conjunctival hyperemia but non-affected parts of ocular conjunctiva are fairly normal. When on the cornea the ulcer resulting may be superficial and heal and leave no changes in the cornea or may spread into corneal substance and leave permanent opacity or may even perforate. There is usually considerable lachrimation but no secretion. If there is any discharge it is mucous or mucopurulent.

Course: The phlyctenulae appear in crops,—each crop lasting from five to fifteen days. Relapses are common.

Complications: This trouble is often accompanied by blepharitis; excoriations and exzema of the lids and face, and nares and swelling of the cervical lymph glands. Rhinitis is always present.

Etiology: It is found especially among those who suffer from strumous, scrofulous or tubercular diathesis. The lower classes suffer most, as here, dirt, poor food, bad hygiene, etc., are contributing factors. At times it is seen in children of apparently good health and of the better classes. Micro organisms have been described but inoculations were negative. One of these resembled "coccus flavus desidens." Astigmatism some authors consider an important factor.

Treatment: Proper diet, plenty of air and sunshine. Hydrotherapy, cold bath and plunge for the face.

Tonics: e. g., iron, quinin and cod liver oil.

Locally: Yellow oxide or calomel. Caution if necessary to control the ulcers.

Two points I would emphasize:

1. Allow no bandage or cover of any kind.
2. Treat the nasal condition, with yellow oxide.

This little Chinese girl came to clinic with a severe eczema of the right side of the face and lip and right nares. The lip was very much swollen and the right eye showed several typical phlyctenulae in various stages. The nasal and lip condition was especially noticeable, being so distinctly unilateral and so severe. During the treatment the other eye and left nares showed only very slight disturbance.

Treatment above, as outlined, was followed with immediate improvement and you see the child now nearly well. The eye condition cleared and the nasal and face trouble scarcely noticeable. While under our care tests were made for luetic or tubercular conditions, but both the Wasserman and Moro reactions were negative. The child has gained in weight and I am sure that those who may have seen her in other clinics will note a very remarkable change,—in fact she is a very different child in appearance.

Case 3. The pelvis of this kidney as you see is literally filled with a calculus. The patient, age 40, laborer, came to us complaining of failing vision. Gave no history of kidney trouble except had "passed gravel a few times." The fundus showed the classical picture of albuminuric retinitis with numerous small hemorrhages. Patient felt very well with the exception of headaches but asked only to have the vision improved and he would be satisfied. The patient was persuaded, with great difficulty, to enter the hospital. The post mortem was made ten days later. I present the specimen to show how severe and long standing a kidney lesion may be before noticed.

\* Read before Cooper College Science Club, February, 1910.

## THE VALUE OF REST IN THE TREATMENT OF PULMONARY TUBERCULOSIS.\*

By ROBERT A. PEERS, M. D., Colfax.

The marked changes that have been made during the past two decades in the treatment of tuberculosis is in no way better illustrated than in the shifting of position in the attitude of the members of the medical profession regarding the value of rest in this disease. We can all remember the period when, with the knowledge of the advantages of outdoor living, came the advice to tuberculous patients to exercise. The favorite prescription was: "Go out in the hills, among the pine trees, walk ten or twelve miles a day, and rough it"; and this to patients who frequently were suffering from a high fever. But gradually the profession, or rather those who saw many of these patients, discovered that, while nature aided many to recover in spite of this "roughing," more were made worse. Even more gradually it dawned upon them that what the majority of these patients needed was the reverse of "roughing it"—rest, frequently absolute rest. To-day, were you to ask the men who are treating tuberculosis exclusively what they considered the most important aid in the cure of that disease, I think a majority would answer, not fresh air, nor climate, nor forced feeding, nor tuberculin, but rest.

For many years there seemed to be an impression, which to-day is dying hard, that the fever of the tuberculous patient was entirely different from the fever of typhoid, or other febrile diseases, in that it was not necessary for a patient with fever due to the absorption of the toxins elaborated by the tubercle bacillus to go to bed, while the fever due to the absorption of the toxins of the *b. typhosus* should be treated by absolute rest of body and mind. Thus we observed the anomaly of a physician keeping his typhoid patient in bed until ten days after the evening temperature had become normal, while advising his tuberculous patient, with a temperature of 102° to 103°, to go out and rough it; or at the best to be quiet in the afternoon when the temperature was highest, an error of which the most of us have been, in times past, guilty.

This also was the time when the patient with a tuberculous joint was given rational treatment with rest, by means of an immobile splint, while the patient with an acute pulmonary tuberculosis was ordered the opposite of rest,—pulmonary gymnastics, either by means of certain breathing exercises, or by the increased respiratory efforts resulting from mountain climbing.

To better appreciate the value of rest as a therapeutic measure, it would be well to consider briefly the main predisposing factor in the causation of tuberculosis, and the resulting conditions following the neglect of this most important aid to treatment. In the first place you have doubtless noticed that it is not the indolent individual, who shirks the responsibilities of life; it is not those who are stigmatized by the inelegant, though expressive, term of "dead ones" who fall a prey to the tubercle bacillus. The ranks of the tuberculous are recruited from the great army of overworked; from the men who allow their ambitions or their necessities to drive them to overexertion, with an insufficient time for needed rest; from the women worn out by childbearing and household cares; from the young men and women who spend the time after working hours in dissipation or pleasure. Too much work, too much play, or a combination of both, exhaust the body cells and reduce the resisting forces of the organism to a point which allows them to succumb to the attacks of the tubercle bacillus. In short, this is a disease caused by the tubercle bacillus in a body too worn out by lack of sufficient rest to allow recuperation of the exhausted cells. Heretofore, too much stress has been laid upon lack of fresh air, in the home, the workroom, and office, in the causation of tuberculosis. It has been shown that laborers engaged in outdoor work succumb more quickly to this disease when overworked than when engaged in lighter work indoors.

Next, let us consider the subject from the other standpoint; viz., the deleterious effects of exercise on the individual suffering from the effects of an active tuberculosis. In the first place, the tubercle bacillus can be present in the human body without causing its host, per se, the slightest injury. It is not the tubercle bacillus, but the poisons elaborated by it, which cause the syndrome known as tuberculosis. It is the absorption, and dissemination throughout the human organism, of these poisons which causes the wasting, the fever, the rapid pulse, the malaise, the anorexia, and the various other symptoms which are the visible manifestations of the invisible existence of this germ.

Before speaking of the evil effects of exercise, by causing an increase of all these symptoms, while rest produces a favorable effect in the opposite direction, I wish to state clearly that I believe heartily in the beneficial effects of exercise, under the guidance of a physician, in arrested cases with subsidence of the acute symptoms which indicate a progressive disease. I am speaking now of the cases which come to us every day, where the disease is not arrested and acute symptoms are present. Let us consider the effect of exercise on these symptoms.

\* Read at the Fortieth Annual Meeting of the State Society, Sacramento, April, 1910.



There is wasting. The causes of this are several, all due directly or indirectly to toxin absorption. First, there is loss of flesh due to the destruction of body cells by the direct action of the toxins on these cells. Secondly, there is waste of tissue due to the increased metabolism as a result of the increased temperature. Third, there is loss of weight because of lessened ingestion of food due to lack of appetite. Fourth, there is imperfect assimilation of food because of the impairment of the digestive tract. And lastly, there is loss of weight from muscular movement incident to exercise. The loss of weight from the first four causes can be influenced only indirectly by rest, by the lessened absorption of toxins due to the quieting of the circulatory activity. The last named factor, the loss from muscular movement, can be controlled directly. For all practical purposes it may be accepted that the loss from this source will be in proportion to the amount of muscle movement: therefore, the amount of saving of tissue will be the greatest where the control of the patient's movements approaches most nearly a condition of absolute rest.

The pyrexia of tuberculosis is due to two factors. First, there is the effect upon the centers, which govern heat control, by the toxins. Second, there is the influence upon these centers by the presence in the body of the products of increased destruction of tissue. This is aided by imperfect action of the excretory organs. Rest favorably influences the temperature by lessening the amount of toxin absorption and of tissue destruction.

The increased pulse so characteristic of this disease is due to a combination of toxemia, increased temperature, and the muscular weakness which is general with the entire musculature of the body. It must be obvious to everyone the necessity of rest for an organ of such prime importance as the heart.

It would seem unnecessary at this time, when the subject of tuberculosis is so thoroughly discussed, to make the statement that tuberculous patients with a temperature of  $100^{\circ}$  and over should be put to bed and required to stay in bed until the afternoon temperature falls below  $99^{\circ}$ , but daily experience in meeting patients with a temperature of  $102^{\circ}$  to  $103^{\circ}$  and higher, who have never been told to go to bed, shows that the necessity for such a procedure is not so generally appreciated as it should be. My practice, which is the one pretty universally followed at sanatoria, is to require each patient to take his temperature, or to have it taken by an attendant, at least every three hours and when the thermometer registers  $99.6^{\circ}$  to remove all clothing and go to bed for the remainder of the day. If the temperature reaches  $100^{\circ}$ , the patient must stay in bed the succeeding day, even if the temperature does not exceed normal on the second day. If the temperature is  $99^{\circ}$  when taken at 7 a. m., the patient stays in bed all day. Any increase of symptoms, even without a rise of temperature, is a signal to rest—in a chair, if the increase is slight, in bed, if greater. To anyone who has not followed this

plan, the rapid amelioration of symptoms, as shown by the lessened cough, increased appetite, disappearance of night sweats, drop in temperature, and change in facial expression, is little short of marvelous. The good results are so apparent that patients are not required to be sent to bed when an exacerbation occurs, but go voluntarily—knowing from experience the benefits derived.

To follow the plan here outlined requires in some cases the utmost faith in its value by the physician, and as great faith in the physician by the patient. On two occasions I have kept patients in bed for more than five months, not allowing them up for meals, and at times not allowing them the opportunity of writing letters, and at other times even restricting the amount of reading to a certain definite length of time for each twenty-four hours; with the pleasure at the end of that time of seeing their temperatures drop to normal with a corresponding improvement in all the other symptoms. These, of course, are extreme cases, and where two months in bed does not bring about improvement, the chances are that none will be made. Where the result is to be satisfactory it will usually be shown by a fall in temperature in the first month. And among all other signs of improvement the permanent lowering of temperature is, I think, the most important.

For patients constantly running a high temperature not only must there be as nearly absolute physical rest as possible but also mental rest. Frequently all reading must be prohibited, letter writing forbidden, and all unnecessary conversation or visits disallowed.

When the patient's temperature admits his being up, his rest may be taken in a reclining chair, with the proviso that he lie down, before and after each meal, for from one-half an hour to an hour, if he is allowed light exercise. He is also instructed to take his temperature regularly and to go to bed at once should a rise of temperature, or other increase of symptoms, occur.

It is hardly necessary to insist upon the most complete rest in case of blood spitting or hemorrhage. It is merely mentioned with the statement that no other measure is so effective as rest, in case of the occurrence of these complications.

Finally, when the patient is discharged, he should be given the most thorough instructions as to rest. A great proportion of the apparently cured cases that relapse is due to the ignorance, or underestimation, of the great importance of following out these principles at home after leaving an institution. Patients who can work only half the time should be taught to rest the other half. They should know that for many months and even years they can not work and play too—that the hours not spent in working should be given up to rest instead of parties, dancing, and games. This may be considered a misfortune but it is not so great a misfortune as to relapse from the ranks of the breadwinners to the ranks of the dependents. And, after all the chief end in view, and the best test of the successful treatment of tuberculosis, is the production of breadwinners from the tuberculous who come into our hands dependents.

### A CASE OF PRIMARY CARCINOMA OF BRONCHUS IN THE MEDIASTINUM.\*

By H. R. OLIVER, M. D., San Francisco.

Mr. P., D., age 42. Mass. Albino. Previous health good. Family history good. No venereal history. In February, 1908, patient complained of pain in the right apex. He was somewhat weak. One week later developed a temperature of 101.6. A physician made diagnosis of pneumonia. Patient was confined to the house for two weeks; temperature was never over 102; right apex dull to percussion. Patient did not regain strength and diagnosis of tuberculosis of lungs was made. Sputum examined by myself several times, during a period of three months, failed to reveal tubercle bacilli. The sputum was of a serous nature and had a slight streak of bright blood.

Patient then went to the southern part of the state for two months, failed to gain strength and came home. While south a physician claimed to have found tubercle bacilli once. On his return I again examined sputum several times with same findings as previously stated. Rather suddenly patient became markedly dyspnoeic and could only rest in upright position. A diagnosis of cardiac failure was made. I then saw the patient for the first time and found markedly dyspnoeic and cyanotic. On examination the heart sounds and pulse were normal, the right side was bulging and the pleura contained fluid to the fourth rib. Aspiration showed a clear straw colored fluid, high in specific gravity, rich in albumin but containing few pus cells; the polymorphonuclears in excess, and no blood present. Two liters were withdrawn; patient much relieved but complained of pain between scapulae at lower angles. Percussion of chest showed right side flat, left emphysematous. After withdrawal of the fluid some breath sounds feebly heard at base of lung (probably transmitted from emphysematous left lung). He got stronger but developed an extensive edema of the right side of the face, neck and forearm. A diagnosis of mediastinal tumor was then made. This edema then extended to the left side of face and arm. The veins of both sides of chest were distended to size of lead pencils, and anastomosis with epigastrics caused these to also become swollen. There was little or no swelling of the lower limbs, no albumin or casts in the urine. This condition continued for several days, patient suffering great pain, especially in upper dorsal region. He became rapidly worse and pleura in both sides filled up with fluid, and then a remarkable change took place; the edema of the face and arms on both sides subsided to normal. Edema of lungs of inflammatory nature caused death three days later. The temperature was never over 100 during the whole period.

A post mortem was held. Heart was found to be normal in size and texture, valves normal. Both pleura filled with straw and bloody colored fluid. A large mediastinal tumor was found incorporating all the structures of the mediastinum and right lung, extending into the right apex and down the pleura to and along the diaphragm. The tumor which was sectioned was found to be a carcinoma, arising from the mucous membrane of bronchus at the bifurcation. There it was the size of a half dollar, edges elevated and center ulcerated. This extended down the bronchi on the right side and to the second bifurcation completely obliterated them. Then small masses were scattered throughout the contracted and pus-filled lung. The left side showed none, the peri-bronchial lymph glands showed metastases. The superior vena cava was surrounded and pressed on while the inferior was not interfered with. The liver was cyanotic and atrophic, the kidneys and spleen were normal but showed marked passive congestion.

Conclusions: The fact that the sputum was of a serous nature and blood streaked was most likely due to transudation and the blood due to the ulcera-

tion of the primary tumor. The pain in the back was the typical mediastinal pressure pain. But the interesting phenomena of the great edema occurring after aspiration and then disappearing, on refilling, can be explained by the fact that while the fluid floated or held up the heavy, infiltrated mass of lung and the lumen of superior vena cava remained open, and when withdrawn this mass fell downward, causing a bend in the vessels and occlusion, the edema resulting. Just before death, when the fluid returned, the lung was again floated or pressed upward and the vessels regained their continuity and circulation was reestablished and the edema disappeared. The histologic examination showed the carcinoma to have arisen from the bronchial epithelium.

### TWO CASE REPORTS BY M. L. EMERSON, M. D., MADE TO THE ALAMEDA COUNTY MEDICAL ASSOCIATION.

At the last meeting I presented a patient on whom I had operated for a pseudo-pancreatic cyst or a cyst of the omental bursa, removing from this lesser peritoneal cavity two quarts of dark, blood-stained fluid from a very much emaciated patient, who at some time probably suffered from a trauma of the pancreas.

Colicky pain referred to the left hypochondrium and left shoulder, nausea, vomiting, steady enlargement of the abdomen and emaciation, were his chief symptoms. This tumor reached the abdominal wall between the stomach and colon in the left hypochondrium.

This evening I present to you a specimen of an acute hemorrhagic pancreas secured post mortem to-day, from a patient on whom I operated four days previously. I have purposely kept it on ice since its removal this afternoon, that you might observe the pathognomonic fat necrosis which has occurred in the fat of the omentum, falciform ligament, mesentery and throughout the substance of the pancreas itself.

The abdomen in this case contained considerable blood-stained fluid, the pancreatic area looked like a carcinomatous mass within the intestines, the fat necrosis was everywhere demonstrable—breaking through the gastrocolic omentum the nature of the lesion could be plainly recognized.

No stones or any cause of obstruction could be demonstrated in the pancreatic ducts. The hemorrhage, you will notice, is in the head of the gland, which part is somewhat enlarged.

### RAILWAY SURGEONS

#### CRUSADE AGAINST THE ANOPHELE MOSQUITO.\*

By T. B. REARDAN, M. D., Oroville.

When Laveran, in 1882, discovered the parasites in the blood of those ill with malarial fevers, an opening wedge was driven, which has finally made clear the way for the control, and one might say, the elimination of such fevers in any given locality. Patrick Manson found the mosquito to be the host of the parasite, and Sir Ronald Ross that it inoculated the human through its bite.

The first scientific demonstration of protection was carried out in the swamps of Rome, where in mosquito-proof houses in a place where hardly any one was ever known to escape infection, the protected laborers were able to work and remain free of malarial fevers. Patrick Manson, to prove the findings, had an infected *Anophele* mosquito carried

\* Reported at Cooper College Science Club.

\* Read at the Eighth Annual Meeting of the Pacific Association of Railway Surgeons, San Francisco, August, 1910.

from these same swamps to the heart of London, which he allowed to bite his son, who became inoculated and developed the typical form of Tertian malarial fever.

How different is this positive knowledge from the theories of twenty-five, twenty and fifteen years ago, when malarial fever was supposed to be due to the inhaling of a miasma arising from the ground in the cool of the evening or the early morning hours. In an old standard authority of my student days I found these words on malaria:

"No chemist has yet been able to demonstrate the existence of malaria. We assume its existence from certain observed effects on the organism, just as we do in the case of other poisons which produce certain specific diseases. Malaria is believed to be the produce of organic decomposition in soils, whatever may happen to be their mineral composition; water is indispensable to the process, and a high temperature although not absolutely necessary, greatly aids it. It is generated in greatest abundance in marshes which contain a high percentage of organic matter, hence the name by which it is familiarly known, Marsh Miasm."

The older authorities while not knowing the role played by the mosquito yet gave practically the same advice given to-day for protection, and noted the disappearance of malarial fever from localities after swamps had been drained and sub-soil drainage instituted.

In 1898 Patrick Manson, summing up the status of preventive measures prior to the proving of the mosquito theory, wrote as follows, as extracted from an article written by Dr. W. F. Snow: "Malaria, the Minotaur of California. Experience has shown that much can be done to free a locality of malaria. Drainage and cultivation is desirable when the land will repay the expenditure, permanent and complete flooding when it will not. The inhabitants of malarious districts ought to live in villages and towns, with well paved streets and courts, going out to cultivate their fields during the day, but returning to sleep in the town before nightfall. Houses should be placed on high and dry situations. It is unwise to have flower beds, or vegetable gardens near bedroom windows, or to allow water from bathrooms and cookhouses to flow over the ground in the vicinity of the house, or to keep water unchanged in tubs, or water butts, for mosquitoes to breed in. Pools and puddles of stagnant water should be filled up and turfed. The neighborhood of swamps is to be avoided. There are many simple precautions of this sort which will occur to every prudent man and which in malarious countries he should take care to have carried out."

Almost all are now familiar with the brilliant results obtained by Col. Gorgas in the Panama canal zone, owing to his scientific sanitary precautions and the protective care accorded the employees, which has been the prime factor in the successful carrying forward of the great canal. DeLesseps and his engineers were able men, but unfortunately for them the prophylaxis of malarial and yellow fever, was not known at that time, the result being that they could not bring in a sufficient number of well laborers to take the place of

those taken ill, while now the death roll hardly equals that of many of our large cities.

The public, always suspicious of any great advancement, even when for its own best interest, as witness the still persistent attack against vaccination, have, thanks to quite a number of well-written magazine articles in the past few years, at last awakened to the knowledge that their lives can be made more comfortable and vast sums of money saved and earned as represented by the fewer number of hours lost from malarial fevers, if proper means be taken to destroy the anophele mosquito.

In the early summer, Oroville, through the ladies of the Monday Club, acting under the stimulus of its energetic president, Mrs. Harry Klugel, invited Prof. W. B. Herms, of the State University, to deliver a lecture on mosquitoes.

On an evening in May Prof. Herms, to an audience that filled the courtroom, explained the life history of the mosquito, confining his remarks principally to the culex and the anophele, explaining by charts their characteristics, and how they could be distinguished one from the other in both their embryonic and adult stages, and that so far as is known positively, the anopheles alone is the malarial bearing pest; how with proper protection against its bite and the destruction of its breeding places malarial fever could be entirely suppressed in the city. That evening after the lecture a collection was taken up which formed the nucleus of the sum necessary to carry out Prof. Herms' suggestions. A few weeks later a tag-day was selected on which the ladies collected \$480. The different gold dredging companies, controlling twenty-two boats, pledged \$25 for each boat. Each dredge master was made a supervisor for the district adjoining his boat, and every ten days has attended to the spreading of oil on all pools of water in his vicinity. Prof. Herms himself went over the whole field, marking with a red flag all mosquito-breeding places; his assistant then either had them drained when possible or oil poured over the surface. This work has been regularly carried on for over three months. Mr. B. Bairos, Prof. Herms' assistant, delivered several lectures to the school children, explaining the necessity of keeping their respective premises free of all water-holding articles. He showed them the mosquito wigglers, and pointed out to them the distinguishing characteristics between the two varieties of mosquitoes, so that hundreds of the children have become destroyers of mosquito-breeding places.

While it is an open question whether there is any less malaria here than in former years, there is no question but that there are very many less mosquitoes, and the residents have been freer from annoyance from the pests than for many years past.

Oroville has made a good, earnest crusade against the malarial-bearing pest this year and as it is the firm determination of its citizens to continue the fight from year to year, she will in a few years rid herself of her unfortunate reputation of being the hotbed of malarial fevers, though no more entitled to such title than many another city in the Sacramento and San Joaquin valleys.



## HOOKWORM DISEASE AMONGST MEXICAN TRACK LABORERS.\*

By JOHN W. COLBERT, Albuquerque, N. M.

Our "late unpleasantness with Spain" brought the subject of hookworm disease to the attention of the medical profession in this country—first, through the extensive work of Ashford and King in Porto Rico, and then the investigations of Stiles demonstrated the presence of the disease in our own Southern States. I believe it was Herbert Gunn of this city who first demonstrated its presence in California. And to-day, the hookworm problem is confronting almost every country of tropical and sub-tropical climes, and isolated cases are being found in almost every section of the United States—more especially in our Southern States, where it constitutes a true medico-social problem. It may be of interest to the Railway Surgeons of the Pacific Coast to know that in "our sister Republic" adjoining us on the South are many endemic foci of the hookworm disease, and also that our Mexican track laborers are bringing the disease across the border and along the lines of our railroads in California, Arizona and New Mexico.

It was my privilege to make an extensive study of this disease in Porto Rico during the early days of the "campaign of eradication" there. In two years' time I personally treated ten thousand cases; my report on this work has already been presented to the medical profession. During my three years in railroad work I have had eighteen cases sent to me from New Mexico, Arizona, and California, for hospital care, from various surgeons of the Santa Fe Coast lines, and in no case had a diagnosis of hookworm disease been made. The patients were all sent to me with such diagnosis as "rheumatism," "malaria," "nephritis," "heart trouble," "indigestion," etc.

With the amount of literature, both lay and medical, published during the past few years on this subject, it is a lamentable fact that but few physicians, outside of the Southern States, are to-day acquainted with the condition—and it is quite apparent, from my experience, that this lack of information extends even to railway surgeons.

Hookworm disease is a specific infectious disease due to infection by the *uncinaria duodenalis*, or *uncinaria americana*, and *ankylostoma duodenale*, and is characterized by progressive anemia, general reduction in strength, various nervous and gastric disturbances, and in severe cases hypertrophy of the heart, with hemic murmurs; anasarca, and often marked ascites.

The parasite has been so well described by Stiles, zoologist of the U. S. Public Health and Marine Hospital Service, as to require only a passing reference in this paper. The American species, as found in Porto Rico and the Southern States, differs somewhat from the Old World parasite as seen in the cases from Mexico—i. e., the cases we are apt to see amongst our Mexican track laborers. The chief difference lies in the nature of the buccal armature, and also in the size of the ova. The Old World parasite has a heavily armed mouth bearing two pairs of ventral teeth, and one pair of dorsal teeth, while the American variety, instead of the two pairs of ventral teeth, has a pair of ventral semi-lunar plates or lips, and a pair of dorsal plates. The ova of the American parasite is slightly larger than the Old World specimen. The worm is seen in the feces and is about half an inch long, resembling a bit of white thread. It lives in the upper part of the small intestines, being fastened between the folds of the mucous membrane by its head; the oral capsule, like a cupping-glass, draws a piece of mucous membrane into its cavity and fixes it with its teeth. Stiles, and others, have considered the parasite a blood-sucker, but our investigations in Porto Rico proved this assertion erroneous. A toxin is produced by the parasite, and this toxin is the true cause of the anemia, headache, dizziness and gastric disturbances. The average Mexican track laborer presenting himself with hookworm infection will harbor about 250 or 300 female worms, and this number of worms will produce about one million ova every twenty-four hours. These ova are deposited high up in the intestinal canal, and so become evenly mixed with the fecal mass. The ovum cannot develop to maturity in the intestine, but when the feces are deposited upon earth in a shady moist place and exposed to a relatively high temperature (80° to 90° F.) the ova hatch out in twenty-four hours. Each ovum produces a single lava only, and this, it is to be remembered, never takes place within the host, but outside, which explains why an increase of adult worms in any particular case is impossible without reinfection from without. This fact has a very important bearing upon the hookworm problem amongst our Mexican track laborers, as it explains why the disease spreads only to a limited extent when brought into this section of the country from Mexico. Owing to the change in the sanitary life of the newly arrived Mexican laborer, further infection is only a rare incident. It also explains why many of the cases gradually get better, even though their disease is not diagnosed or specifically treated. Multiple infections are cut off, and the

\* Read at the Eighth Annual Meeting of the Pacific Association of Railway Surgeons, San Francisco, August, 1910.

parasites brought into this country die as they reach the limit of their natural existence.

How does infection by the *uncinaria* take place? The investigations in Porto Rico proved beyond a doubt that there is but one mode of infection, and that is through penetration of the skin by the larvae. All other modes of infection are mere accidents, and are too rare to be considered. The disease is primarily a filth disease. The only way of infecting the soil is by emptying the bowel where the eggs in the feces will later develop. Earth soiling is common in the home country amongst the class of Mexicans obtained for track work, and as the majority of them go barefooted in their home land, their infection is readily understood. After the ova has been exposed to a relatively high temperature for twenty-four hours it is hatched, and the young worm sheds its skin twice and is then ready to infect man. It gains its entrance into the skin of the barefooted "peon," and makes its way, probably through the circulatory system, to its place of election in the small intestines. A dermatitis usually between the toes (where the infected soil has been squeezed in) is the first sign of infection by *uncinariasis*. This is the so-called "ground itch," or more properly known as "uncinarial dermatitis."

The symptomatology of this disease is so varied, and as my time is limited, I wish only to mention the prominent symptoms of a typical case—such a case as we are apt to meet with amongst our Mexican track laborers. There should be no trouble in diagnosing marked infections from the clinical symptoms alone. The pallor, a dirty yellowish or muddy color, is characteristic; the conjunctiva and mucous membrane of the mouth, and beneath finger-nails, are the best guides. Digestive disturbances are always present, usually pain in the epigastrium and marked increase in the appetite. Dizziness and tinnitus aurium, and general weakness are always complained of, especially weakness referred to the knees. There are apt to be pains in the chest and bones, often palpitation, and perhaps hemic murmur; stupor and lack of memory are pronounced symptoms in the majority of cases. The pulse is usually found to be rapid, weak and compressible, and pulsations of the vessels of the neck is noticeable. Early cases often show a slight rise in temperature, irregular in appearance and duration. In the light cases it is not best to rely upon clinical symptoms for diagnosis. The only reliable method is by microscopical examination of the feces. In general, I would say to you railway surgeons, whenever a Mexican track laborer, recently arrived from Mexico, presents himself for treatment and your diagnosis is not perfectly clear, a stool examination should be made.

My method of examining for the ova is as follows:

First—Mix about one-half ounce of feces in a pint of water, and allow this to stand for about five minutes, which permits the ova to sink to the bottom.

Second—Pour off the liquid, allowing about one ounce to remain in the bottom of the glass.

Third—Wash the sediment two or three times.

Fourth—Strain through cheese-cloth.

Fifth—Allow settling for five minutes; then draw up small amount from bottom of glass with medicine-dropper. A drop is placed on slide, and covered and examined under a two-thirds inch objective.

This is the most reliable method and shows the greatest number of ova. The ova are easily recognized. They are of an oval shape averaging 50 microns by 40, and provided with a very thin, simply outlined shell which is divided from the grayish yolk by a zone of clear transparent fluid.

*Treatment*—Only two drugs are worthy of mention in the treatment of hookworm disease: (1) betanaphthol, and (2) thymol.

I consider betanaphthol more reliable than thymol. Thymol is perhaps a more powerful anthelmintic, but the depressant effect of betanaphthol is not so marked. I treat my cases as follows: Keep patient on liquid diet the day before giving the anthelmintic, and about 3 p. m. give a one ounce dose of magnesium sulphate so as to thoroughly empty the bowels that the anthelmintic may act upon an exposed intestinal mucous membrane. The following morning give betanaphthol, grains 15 (in capsule) at 7, and repeat same dose an hour later, and at 11 a. m. give another one ounce dose of magnesium sulphate. Thymol treatment in exactly the same way, except that the dose is double that of betanaphthol. I always have my patient report about ten days after treatment, bringing with him a specimen of feces. If ova are still found, the treatment is to be repeated. The average case will require from one to five treatments, though there is always marked improvement almost immediately following one treatment, whether all the worms are removed or not.

In concluding, I wish to especially impress these facts upon the railway surgeons who are treating Mexican track laborers:

(1) Hookworm disease is to be found amongst many of our Mexican track laborers recently arrived from certain sections of Mexico—chiefly from the Southern States of Mexico, from the Isthmus of Tehuantepec and Yucatan, and including the States immediately above Mexico City.

(2) Every person harboring this parasite may be a focus of infection to others, for if he defecates upon the soil, where others may tread barefooted, he supplies the medium for further infection, providing the proper degree of temperature and shade be present.

(3) There is little danger, however, of extensive spread of the disease in California, New Mexico or Arizona, as all the cases we see here are recently imported into a climate where neither occupation, improved habits, nor temperature will ever favor a spreading of the condition.

(4) This is, nevertheless, a subject that every railway surgeon in particular should be familiar with, at least from a working standpoint, and it is a sad fact that this is not to-day the case.

## SAN FRANCISCO COUNTY MEDICAL SOCIETY PROCEEDINGS.

During the month of December the following meetings of the San Francisco County Medical Society were held:

### Section on Medicine, Tuesday, December 6, 1910.

- 1—Presentation of Case, Wm. C. Voorsanger.
- 2—Demonstration of Two Cases, Milton Abrahamson. Discussed by Drs. McClenahan, Welty, Hyman, Voorsanger, Abrahamson.
- 3—Presentation of Cases of Leutic Joint Troubles, Samuel J. Hunkin.
- 4—Presentation of Case, Cullen F. Welty.

### Annual Meeting, Tuesday, December 13, 1910.

- 1—President's Annual Address, Langley Porter.
- 2—Secretary's Report, René Bine.
- 3—Reports of Committees.
  - a—Finance Committee.
  - b—Committee on Medical Ethics.
  - c—Executive Committee.
  - d—Committee on Public Health.
  - e—Committee on Library and Publications.
  - f—Committee on Admissions.
  - g—Milk Commission.
  - h—Committee on Necrology.
  - i—Committee on Poliomyelitis.
  - j—Committee on Contract Practice.
- 4—A Preliminary Report on the Use of 606, Howard Morrow. Discussed by Drs. Keck, Houston, Morrow.

### Section on Surgery, Tuesday, December 20, 1910.

- 1—A Brief Consideration of the Surgical Treatment of Hyperthyroidism, Wallace I. Terry. Discussed by Drs. Rixford, Farnum, Rothganger, Terry.
- 2—Muscle Plastic for Incontinent Sphincter Ani, with Demonstration of Patient, Alfred Newman. Discussed by Drs. Zobel, Brunn, Rixford, Sherman, Hunkin, Newman.

During the month of December the following were elected to membership: R. B. Tupper, F. R. Mugler, R. L. Ochsner, E. I. Leavitt, W. C. Dawson, Chas. E. Taylor, L. A. Craig, R. McW. O'Neal, H. B. Graham, Bertram Stone, G. W. Hartman.

The following reports were among those made at the annual meeting:

### President's Address.

By LANGLEY PORTER, M. D., San Francisco.

In rising to address you, fellow-members of the San Francisco County Medical Society, on this the last time that I can act as your chosen president, my first and most pleasant duty is to thank you for the confidence you have reposed in me and the honor you have conferred upon me through your Board of Directors, and for the courtesy and friendliness with which you, as a society in meeting assembled, have accepted the rulings of the chair. No matter what may eventuate in years to come, this will ever be to me the most memorable year of my life and one that I feel has obligated me to this Society for the rest of my life, and with deep emotion I thank you once more.

Not only are my thanks due to the members of the Society for their confidence, but to the members of the Board of Directors and of the different standing committees for their earnest, self-sacrificing devotion

to the interests of the Society. At no meeting of the Board was a quorum absent and there was rarely less than sixteen members present at meetings. You will hear from the chairmen of the different standing committees reports as to the work done.

The work of the Executive Committee has been of exceeding value to the members and I feel that the provision of section work and of weekly meetings has been a step of incalculable advantage to the health and vigor of the Society, and the support engendered and interest aroused is a tribute to the determination of the members to make the meetings really of mutual benefit.

Notable papers have been presented and case demonstrations made in so thorough and illuminating a manner that the members of the Society have no need to be ashamed of its programs when compared to those of any other medical society wherever situated. It is planned that in the future there shall be occasional exchanges of programs between this Society and our sister societies in Alameda and Los Angeles, each providing the other with a program.

You chose for your secretary a man, the administration of whose office speaks for itself. He accepted the office at a time when the effect of our losses of 1906 had come to bear most heavily in a quite considerable burden of debt. So much so, that plans for bonding and borrowing were considered by the directors and rejected. To-day, after a year of Dr. Bine's unremitting labor, the Society is out of debt, and with an increasing membership it would seem that the financial future is assured and that in the not too far distant future we will again have a reserve fund.

The directors have felt that the purposes of the Society were more than purely intellectual, and it was decided to attempt a stimulation of the social side of medical life. To this end a committee, with Dr. Kugeler as chairman, was appointed to arrange the first annual dinner, which was held with an attendance of one hundred and twenty members, about one-fourth of the whole membership. Those who came appeared to enjoy themselves, and those who stayed away I hope regretted it sufficiently to put in an appearance next year.

A committee headed by one, who through many years of active life has devoted much time and thought to the welfare of your Society, Dr. C. G. Kenyon, has been working on a plan for housing the Society in a fitting manner. This plan will be presented to you, and even if it should fail to receive your endorsement, the labors of Dr. Kenyon and his committee place the Society under great obligation.

The Public Health Committee, following the suggestion of the American Medical Association, have arranged for popular lectures on medical subjects and are planning for a mass meeting to urge, before the influential laymen of this city, the advantages to their nation, the state and especially to San Francisco, that will follow the adoption of the Owen Law or some other similar statute, and the establishment of a properly authorized national department of health.

As this has not been a year of activity of the State Legislature your Committee on Legislation has



marked time, but in view of the rumblings of threatening attack on the medical law, it behooves the Society to provide a strong committee for next year, one that will co-operate with the State Society Committee. The present state law places not only the admission of candidates to practice in the state in the hands of the State Board of Examiners, but also the police powers of the state in the enforcement of those provisions of the law directed to the abolition of illegal practice. By direction of the directors, the secretary of this Society forwarded to the secretary of the State Board of Examiners a list of persons advertising themselves in violation of the law as practitioners; as a result a number of these individuals have been proceeded against and a few have been convicted and fined in the police courts. It is, however, the unpleasant duty of the president to record that the Society has not in all instances had proper or courteous treatment from the state board. (Anthony-Ashbury.)

The conclusions reached by your Committee on Contract Practice have been formulated and are before you. The committee was appointed to consider the whole range of hospital, lodge and contract practice, but the field was found to be so wide that the deliberations were confined to the subject of hospital relations. The more important subject of lodge and contract practice has not been touched upon and will form the subject of an investigation by another committee another year.

The presence of an unusual number of cases of anterior poliomyelitis in the city was brought to the attention of the directors, and a special committee was appointed to investigate the matter and a preliminary report will be made to you to-night.

So much for the work done by the Society during the year. I would submit to the Society one or two proposals for the future:

First, that the precedent established in sending delegates to the State Society as an organized body instructed as to the policy and desire of the county body in relation to State Society matters, be followed. San Francisco pays to the State Society a large proportion of its income, and yet our influence in the past has been far less effective in the council and at annual meetings than other less numerous but better organized county societies.

Second, that our by-laws be amended to provide for the annual election of only one-third of the directors. It is to the advantage of the Society that a continuous administration policy be adopted. It is the experience of all governing bodies that better and more progressive administration can be had when boards of directors are not entirely changed each year.

Another wise amendment to the by-laws would be one setting forth the objects of the Society. Most county organizations have such a section which emphasizes the fact that the county society is an integral part of the State Medical Society, and through it of the American Medical Association. Our by-law is in fact of a somewhat truculent wording and details whom we would reject rather than those we seek, and would welcome as fellows in this Society. A by-law giving the Public Health Committee power to act in cases of urgency would be wise.

In matters of policy, I would urge that the Society give very full and careful consideration to the plan that has been proposed for an amalgamation of the libraries of this Society and the Lane Library of Stanford University. The trend of modern times is toward union, and this trend is nowhere more in evidence than in the matter of medical libraries. In Chicago a union of all the medical libraries has been made and these merged in the John Crerar Library. Even so magnificent a lot of books as the sum collection was not considered sufficient to warrant a separate collection.

Now in San Francisco we have what is certainly the seventh, probably the sixth, largest collection of medical literature in America, which has behind it a fund of some \$80,000 or \$100,000, and what is

more important still, it has behind it the library organization of Stanford University. At present one trained librarian is at work cataloguing and a second is being trained for the work. Now this library, its organization and equipment, is open to this Society on very easy terms, and I for one am of the opinion that we would be guilty of gross obliquity should we fail to take advantage of our opportunity. The Stanford trustees, convinced that the best interests of medicine are to be served by centering the intellectual interests of medicine in one building, are prepared to supply to the County Society shelf room for this Society's library and to provide offices and assembly rooms for the Society's meetings at a cost to the Society of about what the rental of such inadequate quarters as these we now occupy would be.

Moreover, this income derived from the Society would be devoted to the purchase of periodicals, and there would be a further saving of money, because money now spent on duplicating periodical files would be saved. Practically all the benefits of such a library consolidation would accrue to members of this Society, for from this membership come by far the greatest number of medical readers. The objection that readers would lose time spent in reaching the neighborhood of Sacramento and Webster streets can be met by the fact that any time so expended will be more than made up by the saving effected by the aid of proper indexing and a trained helpful librarian. However, if the plan to own our own building is accepted and put into effect by the Society, it would still be a good plan to concentrate the libraries.

I would urge that every individual of this Society constitute himself a committee on membership. Let him look into the history of the Society and realize that since the inception of this Society in 1868 the science of medicine has become the great positive force. It is through just such societies as this the enlightenment of mankind and their emancipation from pain have come since Pasteur's day, because men have come together for the exchange of knowledge. The discussion of hypothesis and demonstration of achievement to their common stimulation and to the advancement of their profession. I am proud of the profession to which I belong; proud to be a humble follower of masters who laid down and are laying down the foundation of our art. From Pasteur, contemporary with the foundation of this Society, to Flexner, Ehrlich, Boudet, McKenzie, there is a host of men whose work has been brought here and made more vital and more essential because it came through the detailed experience of our fellow-workers, our comrades and our friends.

Now friends, let me again thank you for the honor you have done me, and in thanking you let me urge that every one in this Society be truly friends, helpful, hearty friends. Let there be no back-biting amongst us. Laymen will have hard enough things to say of us. Let us be ever ready in the defense of our fellow-members and loath to add any bit of scandal or criticism. Let our differences be honest, manly differences, openly and fearlessly expressed always to our opponent. Let us never forget that opposition and enmity are two very different things. Let us keep our indignation righteous and vent it only on those who drag our profession or our manhood into disrepute.

In closing I would quote to you from the first presidential address made to the Society by Dr. Whitney, its first president, in 1868:

"A few weeks ago a gentleman whose qualifications as a regular practitioner no one can question, invited to his residence several members of the profession to consider the propriety of organizing a medical society. Those who responded to that invitation represented the different nationalities of which the profession is here composed. It was unanimously resolved that steps be taken to bring together as large a number of those who are known

or believed to belong to the regular profession here, as possible for the purpose of forming a society."

After two or three preliminary meetings, with increased numbers, it was decided to send a notification to every practitioner in the city believed to be a regular member of the profession. This brought together a sufficient number to divest the meeting of anything like partisanship, and then forthwith proceeded to organize under the name of the "San Francisco Medical Society" by adopting a constitution and by-laws. The code of ethics framed, adopted and recommended by the American Medical Association constitutes the basis of our organization, and to this our constitution and by-laws conform.

This furnished a platform upon which all who are described as regular physicians and surgeons can meet upon terms of equality for mutual recognition and conference, whatever the source of their testimonials.

This Society seeks to secure co-operation among the "regular" members of the profession in San Francisco; and if its meetings are conducted in the right spirit, will be productive of mutual improvement by canvassing results of individual investigation and experience so that the observations of each may thus be made available for the benefit of all. Organized upon such a basis, with such objects in view, let us not only invite facts and observations, but give a cordial welcome to hypotheses in their interpretation.

#### Secretary's Report.

Mr. President and Members of the Society: As secretary I beg leave to submit the following report for the year 1910, i. e., from the 22nd day of January, when I took charge of this office, to December 10th, inclusive.

Number of members in Society Jan. 22, 1910...	482
Admitted .....	43
Resigned .....	9
Transferred to other County Societies.....	6
Died .....	7
Dropped for non-payment of dues .....	27
Number members in Society, Dec. 10, 1910.....	476

On going over the records of the Society on January 22, it was noticed that a large number of members were in arrears in their dues, in spite of 30 members having been dropped for that reason during 1909. Notwithstanding our continued efforts to collect all old accounts, as well as the current dues for the year 1910, it was impossible in some 27 instances to do anything but drop these names from the membership roll, thus losing \$789.25. There are now 476 members in good standing; many of them, however, do not seem to realize that dues are payable in advance, but from these members the Society can expect, within a very few weeks, to obtain the \$600 (approximately) still due. The Society is called upon to pay its assessment to the State Medical Society quite promptly, and cannot afford to carry delinquent members on its roll, and for this reason the total count of members is somewhat smaller than in 1907 and 1908, when less than one-half of the members paid their dues, but for whom assessments were nevertheless paid.

In the early part of this year letters were sent to several hundred local physicians, pointing out to them the advantages of membership. Still more recently the profession has again been circularized, with very encouraging results, so that it is believed that with renewed efforts on the part of this office, with the aid of an enthusiastic membership, at least 200 members should be obtained in another year. At this meeting alone eleven new members are to be admitted as proof of my statement.

#### Financial Statement, January 22 to December 10. Receipts.

Received from Dr. Rixford, treasurer, 1909 (check) .....	\$1,714.32
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Received from Dr. O'Neill, secretary.....	316.81
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Total received (of which \$1027 was 1910 dues) .....	\$2,031.13
Collected from members and rental of library .....	5,916.28

Total receipts .....	\$7,947.41
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#### Disbursements.

Rent .....	\$1,320.00
Cal. State Med. Soc., rent in lieu of exchanges .....	180.00
Salary of office assistants, stenographer....	435.00
Salary of assistant librarian to July 15.....	455.00
Old library bills .....	1,015.30
1910 library bills .....	562.53
Attorney fees, 1910 .....	125.00
Assessment to State Society .....	1,900.00
Old bills, printing, salaries, reimbursing Dr. O'Neill .....	136.68
Old attorney bills .....	525.00
Incidentals (including printing, stationery, telephone, laundry, supplies, rent of safe deposit box, insurance on library, secretary's bond, taxes, commissions on collections, entertainment, etc).....	794.60

Total .....	\$7,449.11
Balance on hand .....	\$ 498.30

There was furthermore received from the treasurer eight \$1000 N. W. Pacific bonds, with accumulating interest thereon amounting to \$600, \$10 of which was deposited in the current fund, from which fund the same amount was drawn last year for relief purposes.

The sum of \$200, representing the July coupons, has been added to this fund, on deposit in the S. F. Savings Union Bank.

As the members will have noted, it has been the aim of this office to keep the members in touch with all the transactions of the Board of Directors, so that the program has naturally increased considerably in its dimensions. In this way we have tried to maintain a greater interest on the part of members in the general welfare and proper status of the Society.

The following is a statement of the amounts collected and checks paid per month:

	Collected Dues.	Checks Paid.
Jan. 22, 1910, received from Drs. O'Neill and Rixford, of which \$1027 are 1910 dues.....	\$2,031.13	
January .....	150.00	
February .....	741.80	\$ 962.70
March .....	391.00	1,468.98
April .....	536.90	393.75
May .....	367.00	592.40
June .....	507.25	255.50
July .....	1,123.15	723.75
August .....	633.35	194.10
September .....	701.33	1,268.35
October .....	350.50	496.50
November .....	338.50	597.60
December .....	75.50	495.48
Totals .....	\$7,947.41	\$7,449.11
Balance on hand .....	498.30	

There are still a few outstanding bills to be settled before December 31, and it is probable that their total will not exceed \$300.

RENÉ BINE, Secretary.

#### Annual Report of the Milk Commission, December 13, 1910.

The Milk Commission has held monthly meetings regularly throughout the year and has issued certificates from month to month to the Ideal Farms at San Anselmo and the Timm Dairy at Dixon. The

milk has been of the same high quality which has been produced in the years previously. Mr. Nathan Moran, lawyer, and Dr. Geo. S. Baker, of the Bureau of Animal Industry, have served with the commission and rendered valuable services to the Society. The experts for the commission have been the same as last year, with the exception that Dr. Roadhouse has served since the resignation of Dr. Ward, in the capacity of veterinarian and bacteriologist.

The following written reports have been received by the commission during the year:

From the managers of the dairies.....	21
From the veterinarian .....	20
From the bacteriologist .....	88
From the chemist .....	66

195

In addition the herds at the certified farms have been examined regularly for tuberculosis, and individual members of the commission have made many personal visits during the year to the different farms.

Besides supervising the production of certified milk, the commission during the year arranged a popular meeting at Davis, preceding the annual meeting of the State Society, in association with the Health Association Congress, where matters pertaining to the production of certified milk were illustrated and explained to a large number of physicians, dairymen and others interested in sanitary problems.

The commission also attended a special meeting of the Santa Clara County Medical Society in an educational effort to extend the interest in certified milk. From these efforts and through a large amount of correspondence, commissions in various parts of the state are in process of formation.

Both certified dairies competed very successfully on October 19, 1910, at the National Dairy Show in Chicago. Samples many days old from the Timm Dairy and the Ideal Farms Dairy received a high score in the competition with certified milk produced near Chicago.

The commission has interested the railroads to the extent that special efforts are now to be made for more rapid transportation of certified milk into San Francisco.

All complaints which have been received from members of the Society have been carefully considered and thoroughly investigated, and where the fault lay in the production or distribution of the milk, correction has been ordered by the commission. One distributor, after repeated offense, has been refused the right to handle certified milk.

The sale of certified milk has increased slowly. From the sale of 2213 quarts per day in November, 1909, it has increased to 2982 quarts per day in November, 1910.

The finances of the commission are in excellent shape. At present all the experts are paid directly by the commission and the dairymen are charged a sum sufficient to cover the expense as well as all other educational and incidental expenses of the commission. In November, 1909, there remained a balance in the treasury of \$331.63. After paying an old account to Dr. Ward of \$165.50, due for services rendered a former milk commission, and meeting all other expenses for the year, there remains in November, 1910, a balance to the credit of the commission of \$448.78.

ALFRED BAKER SPALDING, Chairman.

Section on Medicine, San Francisco County Medical Society. December 6, 1910.

#### Report of a Case of Arterio Sclerosis due to Lead Poisoning, With Chronic Nephritis, Dilatation of Aorta, Angio-Neurotic Edema.

By WM. C. VOORSANGER, M. D., San Francisco.

L. B., re-entered Mt. Zion Hospital November 18, 1910. Nativity, Russian. Age, 30. Single. Occupa-

tion, carriage painter. Family history: father and moth both died of "kidney trouble." One brother living and healthy. No history in family of tuberculosis, rheumatism or insanity. Previous history: morbilli, scarlet fever, pertussis as a young child. Rheumatism at age of 10 years and has suffered several attacks thereafter. Yellow fever in 1902 in East Africa, followed in about three months by paralysis of left side of face, descending to left arm. Lasted nine months. In 1900, while in South Africa, patient was taken to hospital suffering from severe abdominal cramps. He was constipated eight days, leaving hospital in two weeks in very weakened state. In 1905 came to the United States still slightly suffering from former paralysis. Shortly thereafter entered hospital for abdominal cramps and dizziness. Came to San Francisco in 1906 and remained well for two years. In 1908 had several attacks of vertigo, nausea and abdominal cramps, for which he was admitted to Mt. Zion Hospital, remaining four days. In September, 1909, re-entered hospital for similar attack and remained five weeks. April, 1910, re-entered hospital, complaining of dizziness, faintness, constipation, shortness of breath and palpitation of heart. Remained three weeks. September 13, 1910, re-entered hospital. Left October 13. Re-entered October 17, leaving November 13. At this time developed an intense swelling of face and lips. November 18 was brought in an ambulance, having fainted on street, and is in the hospital at the present time.

Present complaints consist of pain in the chest and in right upper abdomen; dizziness, nausea and palpitation of heart, headaches and extreme nervousness.

Status: Well-built man, rather anemic. Teeth poor. Stomatitis present, gums suppurating, tongue coated. No glandular enlargement. No disturbance in course of cerebral nerves. Slight edema of lower extremities. Chest moves freely and equally. No dulness over lungs. Normal respiration.

Heart and blood vessels: Apex beat not visible, not palpable. A thrill is felt over precordia, but is more marked upon palpation on jugular fossa. It appears to be presystolic in character. Heart borders upper at third interspace, left at nipple line. Right, one finger's breadth to right of right sternal line. Dulness is quite marked over upper sternum for an area of  $2\frac{1}{2}$  inches. Jugular pulsation visible and pronounced, also visible pulsation of radials and carotids. Radials are markedly thickened and sclerosed, tension increased, rate 80. Blood pressure R. R. apparatus 200. At apex of heart a systolic murmur is heard, increasing in intensity upwards and heard most distinctly over aortic area. An X-Ray photograph shows a dilatation of aorta.

Abdomen: Right upper quadrant a large tumor mass is felt. Liver enlarged to percussion.

Reflexes exaggerated.

Urine examination: 1020. Albumen 1 per mille. No sugar. Microscopical examination negative.

Blood examination: shows slight secondary anemia.

Diagnosis: Arterio sclerosis due to lead poisoning, chronic nephritis, dilatation of aorta, angio-neurotic edema.

The treatment of the case has been and is purely symptomatic. Rest and thorough purging and diuresis with small doses of potassium iodide relieve the attacks, but these return whenever patient resumes work. The future is naturally very much in dubio.

#### Demonstration of (1) Case of Cretinism, (2) Primary Brain Tumor with a Secondary Hydrocephalus.

By MILTON ABRAHAMSON, M. D., San Francisco.

Case 1. I take pleasure in being able to present to you to-night two cases which are of unusual interest; one a sporadic cretin, the other a case of primary brain tumor with a secondary hydrocephalus. Both



children appeared at the Mt. Zion Hospital on the same day; they are both four years of age, therefore making it most interesting to notice the objective points of similarity and the points of difference in the symptoms presented by such totally different diseases. That the mentality and general development of a child with such profound disturbance in the brain should be superior to that of one suffering from insufficient thyroid secretion in nothing short of remarkable. That the child with stunted growth and impaired intellect can be promised with certainty that his body will grow and that the clouded mentality will clear is likewise impressive. In my own experience I have seen five typical cases of sporadic cretinism. All of these were four to six years of age when treatment was instituted and all of them were so markedly improved by thyroid extract that one would not recognize them as the same children. The pictures of my case were taken when the child was six months old and show plainly that the disease in him has progressed very slowly. That the head has a peculiar shape is true. The frontal bosses are marked, over the left parietal area a bald spot is seen. The bridge of the nose is depressed, there is slight puffiness over the dorsum of feet and hands, but the expression is bright, and the child is vivacious.

The family history: negative. Personal history: child was born at the Mt. Zion Hospital, labor being normal. He was very thin at birth, but soon pleased his mother by growing rapidly and being placed in the heavyweight class. But unfortunately he became so fat that he was unable to either walk or talk till he was over three years of age. The child was breast-fed for a year and a half; first tooth erupted at six months, the last at three and a half years of age. He is of passive disposition, good-natured and playful. Up to two months ago the child kept its mouth open and the tongue protruded. He suffers from marked constipation, diurnal and nocturnal enureses. Mother has noticed that while skin was moist and white at birth, it has gradually turned yellow, muddy and very dry; she has never known the child to sweat. Fontanelles closed the second year. As you all can see, the child is much underdeveloped, he has a typical cretinoid expression. The head is large and seems too heavy for the child to support it. The abdomen is pot-shaped and bilateral inguinal hernia are present—a condition which is very commonly seen in cretins. The legs are bowed. There is a myxedematous patch over the spine between the neck and thorax—this pad being covered by thin hair. The soft tissues of face are puffy, the bridge of the nose is depressed, the outer thirds of eyebrows are scant. No other abnormality is present. Treatment: Treatment was started a week ago, and  $2\frac{1}{2}$  gr. Thyroid Extract were given three times daily. The dose will be increased up to five grains three times daily. The child will be kept on this treatment until the cachexia disappears, when I hope to have the pleasure of presenting him again.

Case 2. A Case of Brain Tumor with Secondary Hydrocephalus.—It is interesting to know that the child was brought to the clinic simply to be relieved of persistent vomiting. The following history was obtained: Family history: Negative as to venereal disease in either parent, although a positive Wassermann reaction was reported at the Cooper Medi-

cal College Clinic a few weeks prior to her entrance at Mt. Zion Hospital Clinic. The mother was healthy up to the time this child was born, but shortly afterward developed carcinoma of one breast and was forced to nurse the baby with the other. A year and a half after the child was born the mother was operated on for carcinoma of the breast and died ten months later from general carcinomatosis. Personal History: The patient was an eight-months child; the labor lasted three days and she was delivered with forceps on account of the large size of the child's head. The child was in a state of asphyxia neonatorum for an hour. She weighed fifteen pounds at birth and at the end of the second year weighed forty pounds. Nothing abnormal was noticed until her aunt took charge of her two years ago; it was then noticed that when the child attempted to walk it dragged its right leg, and would always take things with its left hand, showing that the right hand was weak. The head was noticed to be large and the eyes crossed. It was also noticed that the right side of the face was smoother than the left. At this time she was happy, playful and considered bright. The speech was clear and the hearing acute, the child having a particularly good ear for music. Sleep is normal and the patient is wide awake during the day. No history of headache was obtainable. The child has fallen several times, and when observed it has usually been backward, at times to the right. The last fall occurred three months ago when she struck her head, and since that time vomiting has occurred at varying intervals. The child has trouble starting the flow of urine and urinates two to four times daily. Vomiting occurs sometimes with regularity and sometimes it is absolutely irregular. Some days the child would vomit all food as soon as it was taken, at other times it would vomit once, twice or three times a day. It was noticed, however, that if the child was absolutely quiet and at rest it would not vomit. Outside of an occasional cough during the winter the child has been free from any of the diseases of children.

Physical examination made November 29th, 1910: As one looks at the child one is impressed with the peculiar expression of the face; the head seeming much larger than it ought to be, bulging anteriorly and laterally. The zygomatic processes are prominent particularly on the right side. There is a slight right facial paresis shown by the smoothness of the right side by the wide palpebral aperture and by the drooping of the right angle of the mouth. Slight exophthalmus is present more marked on the right side. There is also present a convergent strabismus due to paresis of the right sixth nerve. Lateral nystagmus is present, the nystagmoid movements being more marked when patient looks toward the extreme right. Eye movements are otherwise normal. There are several irregular scattered blue spots over the sclerae of both eyes. Corneal reflexes are normal. Sense of taste and smell both normal. Sense of hearing somewhat impaired on right side. Movements of tongue normal. All other cranial nerves except the right 6th, 7th, and 8th are normal as stated before. Teeth, tonsils and pharynx all normal. Ears normal, bridge of nose slightly depressed. The fontanelles are completely closed. The head measures 22 cm. from one parietal prominence to the other, and 23 cm. from the frontal to the occipital prominence. Careful examination shows the digestive, circulatory, respiratory and lymphatic systems normal. Tactile sensation and sensation to pain are normal all over the body. Marked ataxia of both upper and lower extremities while patient is lying down, but more marked on right side. Muscular power seems good. Abdominal reflexes present. Knee reflexes

exaggerated particularly the right. Babinsky, Gordon and Oppenheim reflexes present on right side. Ankle and patella clonus occasionally present on right side. The gait is of the cerebellar ataxic type.

Special examinations: X-Ray examination, negative.

Ophthalmoscopic examination November 29, 1910: Marked choked disc present particularly on the right side. November 29, 1910, Dr. L. Schmidt reported Wasserman and Noguchi examinations both negative.

Examination of urine: Negative.

Examination of blood: Haem. 90%; Red, 5,500,000; W. 9,200; P. 60; Mon. 6; Lyn. 32; Eos. 2.

Diagnosis: I think in consideration of the above findings one is entitled to make the diagnosis of a subtentorial tumor, probably situated on the right side in the cerebellar-pontine space.

Treatment: If possible the child will be put on vigorous anti-syphilitic treatment for six weeks providing it shows some tendency to improve. If improvement is not marked operative interference will be recommended to the parents.

**Discussion**—H. C. McClenahan: I saw the last case presented by Dr. Abrahamson a few weeks ago in the Pediatric Clinic at Cooper Medical College. The child was in about such a tantrum as she was to-night, rendering a complete examination impossible. I gained the impression either from the mother or Dr. Porter that the child's history was suggestive of congenital or acquired hydrocephalus of meningitic origin. Anyway from the history I got at the time, and the objective appearance of the head, I did not hesitate to diagnose hydrocephalus. Whether or not the hydrocephalus was caused by the presence of a tumor, my examination was not sufficient to determine; but that the child is typically hydrocephalic, there is no doubt. The symptoms can be accounted for by hydrocephalus with marked intracranial pressure. I am very much interested in the case, especially as to the existence or non-existence of a tumor to account for the symptoms. If the history of meningitis is correct, I think it is unnecessary that a tumor must exist to account for the symptoms.

Cullen F. Welty: I examined this case before the meeting and do not find nystagmus: In the event of growth in the posterior fossa, there should be increasing nystagmus to the same side, with the increased size of the tumor. There should also be deafness, which there is not. The caloric test would also be negative. There is not a facial paralysis—there may be some involvement of the fibres that go to the under lid. While all the tests and findings are of the utmost diagnostic importance in a positive finding—they do not assume so much importance in a negative finding. In this particular case I am strongly of the opinion that it is a hydrocephalus instead of a new growth.

Sol. Hyman: Whether this patient has a hydrocephalus is extremely difficult to determine at this time, so remote from the time of onset. It is, however, most important to determine, if possible, whether the lesion is luetic or not—from a therapeutic standpoint. Nonne (Hamburg) has just published a series of cases with postmortems, and has been able to demonstrate that in patients whose blood shows a positive Wassermann reaction and where there is a lesion in the central nervous system that, if such lesion be syphilitic, the Wassermann reaction in the cerebro spinal fluid is positive; whereas, if the lesion be non-syphilitic, the cerebro spinal fluid will give a negative Wassermann reaction. Where, however, increased intracranial pressure exists, as in this child, a lumbar puncture is an unjustifiable procedure. Under these circumstances we must rely upon a course of anti-syphilitic treatment. If no decided and marked improvement is apparent after a definite short period of time (six weeks is the probation period of Gowers and Horsley) then the increased intracranial pressure must be relieved

by operative measures, which at the same time may serve the purpose of an exploration.

William C. Voorsanger: When this case was first at our clinic and afterwards in the hospital, there was not a great deal of question but that this patient did have hydrocephalus; the question that arose, however, was how could we account for these symptoms by the diagnosis of pure hydrocephalus. I personally take issue with the statement that all of these symptoms can be accounted for by the diagnosis of hydrocephalus. The history which Dr. McClenahan quotes can be shown to prove the contrary. The child has had a gait which is getting progressively worse; she walked two years ago a good deal better than she does now. I think unquestionably we have to look for something more than simple hydrocephalus to account for all these symptoms which have been brought out to-night. There may be an internal hydrocephalus there, but I certainly agree with Dr. Abrahamson that there is also a tumor present, either in the cerebellum or pons.

Milton Abrahamson: Dr. McClenahan states that the aunt gave a history that the child had fever, vomiting and spasms two years ago. I spent two or three hours in obtaining a careful history from the aunt and uncle of the child and they did not give anything suggestive of fever, acute infection or vomiting of any kind. All you have to do is to analyze the picture that I passed around; at that time the patient was two years of age. The head was then large and the right face was already slightly paretic. A point against congenital hydrocephalus is that the fontanelles closed early and that the head is very much larger in hydrocephalus than the head of this child. Another point against the diagnosis of internal hydrocephalus, I think, is the choked disc. Choked disc occurs almost invariably when a brain tumor is the primary cause. It seldom occurs in uncomplicated idiopathic hydrocephalus. Dr. Welty examined the child before she was brought in and he did not find nystagmus present, and he states that nystagmus is present constantly in tumors of the posterior fossa. In a recent Journal of the A. M. A. there were recorded a great number of cases of brain tumors and a great many of them in the posterior fossa that did not show continual nystagmus. In fact, Oppenheim contends that even the position of a tumor can at times be diagnosed from the way the nystagmus occurs when the child's head is held in certain positions, therefore being one of the signs that help to make a topographical diagnosis of brain tumor.

#### Presentation of Cases of Luetic Joint Troubles.

By SAMUEL J. HUNKIN, M. D., San Francisco.

Some years ago in a paper on syphilis of bones and joints I called attention to two groups of cases, which were remedied by K. I., and said I had gone in most of the cases into the family affairs very carefully, and in view of the evidence could not consider the cases luetic, in spite of the so-called therapeutic test. To-day, having seen many more cases, especially of the first group, I admit their luetic origin. The Wassermann test has settled the question for me in several instances. One of the groups consisted of osteomyelitis with loss of more or less of a long bone, this destruction being later followed with repeated attacks of pain and swelling in other long bones. At this time, contrary to my earlier statement, I believe that a great number, perhaps all of the cases of multiple osteomyelitis of long bones in children, even when ordinary cultures show a pure staphylococcus infection, are luetic in origin, or if you please the peculiar character of this multiple osteomyelitic infection is probably only permitted in a luetic dyscrasia. I would even go further and say that multiple lesions of bones or joints are much more likely to be luetic than tubercular. Also that multiple sinuses around a single joint, especially when through such sinuses bare bone is directly

reached, point more strongly toward lues than towards tuberculosis or any other infection. Dr. McCurdy of Pittsburgh believes that most cases of hip disease are syphilitic. While I disagree decidedly with Dr. McCurdy, still, as years go by and judgment ripens and as the laboratory aids get more and more definite, I find that I am getting a much greater proportion of luetic bone and joint diseases than I used to get. I would again call attention to a rather rapid development of joint disease after bone or joint injury, as an evidence of lues. Again the rapid practically symptomless development of secondary lesions, while the primary joint is under observation and treatment, is suggestive of lues. This is well shown in M. W., a boy here presented and who has a positive Wasserman. This boy while in my service at the Children's Hospital for a vertebral osteitis, on a second examination ten days later was found to have two vertebral lesions. Hardly thinking it possible this second lesion could have developed in so short a period, I rather blamed myself for a careless examination and with that idea in my mind went over every joint in a painstaking manner. Within two months the boy developed painlessly destructive osteitis in both hips, both knees and one ankle. Radiograms offered show the changes. At present all joints are apparently normal except the upper primal vertebral lesion and one hip. At present I look upon such a sequence, such a development and course as more than suggestive of syphilis. The development of bone or joint destructive osteitis after severe injuries is suggestive of lues. Tuberculosis in my experience practically never follows upon severe injury of a bone or joint. Such sequence and development suggest lues. Tuberculosis developing after fractures or dislocations is exceedingly rare. Luetic changes, however, are not rare after severe injuries. The matter of differential diagnosis between lues and sarcoma comes up under these circumstances and rarely is tuberculosis to be considered. Seldom does tuberculosis attack the shaft of a bone except by spreading. The matter of diagnosis is very important. Of course a Wasserman should be made. Tuberculin tests except under proper control are not of so much value, especially when positive. Of the various tests, I only place dependence upon the hypodermic injection of T. R. in doses of about 1/10 mg. with very guarded temperature charts. A local reaction accompanying a general reaction under these circumstances is complete evidence. Remember also please that even this does not exclude lues,—the symbiosis is not so rare as we used to think.

The radiograms of some of the children here exhibited are very interesting and show the luetic character of lesions well, especially so as they differ from tuberculosis.

Section on Surgery, December 20, 1910.

#### Muscle Plastic for Incontinent Sphincter Ani.

By ALFRED NEWMAN, M. D., San Francisco.

One of the most deplorable conditions that can exist in an otherwise healthy individual is the inability to control the bowels. His sphere of action is bounded so to speak by the four walls of the toilet. He cannot work, he cannot play, his entire time is consumed in trying to keep clean. Despite every precaution he is constantly liable to soil himself. He is a burden to himself and a nuisance to those about him. Under such circumstances any procedure that offers even a remote chance of relief is entirely justifiable.

Leaving aside that large class of cases (obstetrical, etc.) in which it is possible and advisable to try to bring together the severed ends of the sphincter, there remain a certain number in which for one reason or another it is necessary to find a substitute for the sphincter ani. Of course as we all know it is impossible to produce a sphincter identical with the normal. So that if a substitute

can be provided that will enable the patient to ordinarily control his bowels, to get about and go to work, we may well be satisfied with the result even though the new sphincter does not extend to the examining finger the firm grip that the normal sphincter does.

The first to make a successful artificial sphincter, as far as I have been able to discover, was Chetwood\* in 1902, in a case where repeated operations had failed to cure a ruptured sphincter; his procedure was as follows: Semi-lunar incision from one tuberischii to the other reaching slightly above the tip of the coccyx. The flap is dissected down exposing the edge of the gluteus maximus muscle on either side. A ribbon of muscle a quarter of an inch wide and one-sixteenth of an inch thick is then dissected from the gluteus of each side having the attachment above at the coccyx. The perianal tissue is then tunneled and the strips crossing each other beneath the coccygeal-anal ligament are brought around the anus. The strips are then attached to the remains of the sphincter and to each other. The skin flap is then sutured back into place. Marvelous to relate this operation was a complete success and after a year Chetwood's patient was able to control his bowels under all conditions. Despite the most painstaking search the only other mention of this operation that I have been able to discover is in Tuttle's work on "Diseases of the Rectum." He reports five cases, in three of which the results were good, the other two were failures. This lack of mention leads me to believe that the operation is comparatively little known and for this reason I think it well worth while to once again bring it to the notice of the profession. Before proceeding to the narration of the present case I must state that the operation did not entirely appeal to me as it took no account of nerve or blood supply and the strips of muscle seemed far too slender. However, as the operation had been successful before I determined to try it. After having done the operation I learned of Shoemaker's<sup>1</sup> operation published in April, 1909, in which he preserves the nerve and blood supply of the gluteal flaps which are made more than one and a half inches wide, thus correcting the faults which attached to the original Chetwood operation.

This operation is as follows: Vertical incision beginning two fingers' breadth from the tip of the coccyx carried vertically downward for ten centimeters. Then obliquing downward and outward to a hand breadth below the base of the great trochanter. The skin flap so formed is dissected up. Two flaps, one for each gluteus maximus, are then dissected off, taking care to preserve the nerve supply which enters the muscle about midway between the tip of the coccyx and its insertion into the gluteal ridge on the femur. The flaps are from three to four centimeters wide, they are severed near their insertions and freed up to the entrance of the nerve. The tissue anterior and posterior to the anus is then tunneled and the flaps drawn through and sutured to the tuber ischi of the opposite side, to each other and to the remains of the sphincter, if there be any. The woman on whom this operation was performed had been operated on several times for prolapse of the rectum, with the result that the prolapse was cured but the sphincter destroyed. After operation she was able to retain an injection of glycerin. A perfect, even marvelous result.

Patient, E. L., age 23. Family history good, worthy of note in previous history are three attacks of gonorrhea during the last of which he developed an ischio-rectal abscess which after a week's duration was opened in another hospital. This was in April of the present year. Resulting fistula was operated on three weeks later. After a few weeks' treatment the patient was transferred to the City and County Hospital on May 26th. Report on admission notes absolute incontinence of feces and purulent discharge from rectum. Patient remained with practically no treatment until he came under my care in the early part of August. Examination at that time showed a widely gaping anal opening

\*Med. Record, Apr. 5, 1902.

(1) Shoemaker. Plastik for Incontinence. Method of Reconstructing Sphincter. Semaine Medical. April 7th, 1909, XXIX.



with a profuse muco purulent discharge. Examination under ether, the parts being exquisitely tender, failed to show any remains of the fistula. Local treatment was then instituted, this lessened but did not cure the discharge; so that under the impression that the dribbling of the feces might still be maintaining the proctitis and also to relieve the sufferer of the intolerable incontinence, operation was determined on. The reason that impelled the use of a muscle plastic rather than direct union of the severed sphincter was the fear of infection,—the incision being well away from the anus and easily kept clean in Chetwood's operation.

Operation, August 8, 1910, kindly assisted by Dr. Zobel. Anesthetic chloroform, at patient's request. Patient lying on stomach with legs hanging over edge of table and spread well apart. Operation as described by Chetwood except that the muscle strips were made the thickness of a thumb and a heavy chromic ligature about the rectum tied over the assistant's finger, whose object was to support muscle strips during healing. The patient lay on his stomach for the first week, had bowels moved in same position and had to be catheterized the first ten days. Was discharged September 8th with wound well healed and rectal condition very much improved.

The patient is now working and can control the bowels very well but there is still some slight discharge. His artificial sphincter keeps his anus closed, a living ligature as it were round the lower opening of his bowel that contracts at will. As was to be expected true sphincteric tone is absent, the finger entering the sphincter with very little resistance. However, since leaving the hospital the patient has never had to wear a pad nor has he ever soiled himself although his movements are always semi-solid; even after taking a saline cathartic he has been able to hold his bowels until he reaches the toilet, so that under the circumstances the result, if not perfect, may be designated as very satisfactory.

**Discussion.**—A. J. Zobel: I had the pleasure and opportunity of being present when this operation was performed. From the result that has been obtained I think Dr. Newman deserves both praise and congratulation. While it is true that his patient has yet a partial incontinence, still he has been made so much more comfortable than he was at first that it may be considered practically a cure.

From observing this operation and studying it over, I have concluded that in the future it would be advisable to do as Dr. Newman suggests, that is, to use a broader and thicker segment of the gluteus maximus muscle, thereby preserving both the blood and nerve supply and so securing better muscle action.

I believe this is necessary because the transplanted muscle does not take up a true sphincteric action, but acts more as a cut-off muscle. It is in a state of relaxation until when contracted by the will it presses upon and occludes the anal canal.

This action of the muscle may be well illustrated even in normal individuals when they strongly contract both glutei and bring the buttocks closely together. The muscles here seem to reinforce the external sphincter muscle and help restrain the expulsion of the fecal contents of the rectum when that organ is under stress of an over-stimulated musculature. Therefore the larger segment used the stronger its action as a cut-off muscle.

I think it well to remember that incontinence might be due not only to the loss of continuity of the sphincter muscles and the presence of an excess of scar tissue, but that it may also be the result of spinal or nerve disease. When due to the latter condition there is anesthesia and analgesia of the anal canal. This allows a fecal movement to come down the canal without being felt. Here I can understand how an operation would be futile, for it is only in those patients who feel the desire to empty the rectum and can bring the glutei maximi

into play in time, by the exercise of the will, who can be benefited.

Therefore a careful study of the causation in all cases of fecal incontinence is necessary. A case in point is a man who came to my rectal service in the San Francisco Polyclinic shortly before the fire of 1906. His complaint was fecal incontinence, and otherwise he appeared perfectly well and normal in all respects. Examination disclosed a peculiar thinning of the external sphincter, and I was at a loss for a diagnosis of the cause. The fire destroyed the Clinic and he disappeared from my observation. About eight months or so later I saw him walking on the street. He had the unmistakable characteristic gait of the sufferer from locomotor ataxia. Then the diagnosis was made for me, and since then I have never failed to remember that fecal incontinence may be one of the earliest symptoms of locomotor ataxia.

In regard to the prophylaxis of incontinence, I believe that much of this condition following fistula operations could be avoided if more care would be taken by the surgeon in divulsing the anal canal. When roughly and hurriedly done there is much bruising and laceration of the parts with considerable effusion of blood into the tissues, and as a result primary union of the excised wound fails.

When spinal anesthesia is used the anal canal becomes patulous and soft of its own accord and one can work in it almost without needing to divulse it at all, and primary union after excision of the fistula is more frequently secured.

Emmet Rixford: In view of the history of the many ineffectual attempts to devise an operation which will give the patient with anal incontinence real control of his discharge, this operation described by Dr. Newman is most interesting—and the person here exhibited certainly has contractile power of the anus when, it seems, he had not before the operation. I am not altogether convinced, however, that the contraction present is not produced by the sphincter muscle, for confessedly there was but a single incision in the muscle as the cause of the incontinence. I would like to ask Dr. Newman how he determines that he transplanted strips of the gluteus muscle actually contract for it seems unlikely that such long and thin strips of muscle would preserve their contractile power when there is no certainty that their nerve supply was preserved. Is the contraction tonic or are the patient's bowels continent only when he voluntarily contracts the gluteus maximus muscle? To be sure when the man attempts to contract the anus on the examining finger he simultaneously contracts both gluteus muscles, but this may be coincidental or the result of suggestion. Can he by his will contract the anus independently of the gluteus muscles? I do not know that the gluteus maximus muscle is one of those muscles like the common flexor of the forearm over which the possessor has volitional differentiation as to the contraction of its different parts. The best test of this operation would be in cases of complete paralysis of the sphincter muscle or after complete excision of the same as is occasionally done for carcinoma.

To return to the sphincter muscle proper, I would call attention to the fact that with a comparatively small part of the muscle active, i. e. having a good nerve supply and not too much cicatricial tissue about it, excellent control can be obtained.

Harry M. Sherman: When Dr. Brunn told us that this patient had been at the University Hospital I was very much interested to know whether he had come under my service or that of Dr. Huntington. Dr. Brunn's very frank and honest statement exculpates me. I do not understand myself, why Dr. Newman did the operation which he describes. A long while ago when Mr. Ball of Dublin was here, I had in my care a little girl whose rectum opened into the vagina just below the cervix, and I was wondering whether it was possible to make for that little girl a sphincter out of strips of muscle

from the glutii after moving the anus to its normal site, and Mr. Ball persuaded me not to do it. I should think that would be exactly the same case in this instance where the narrow strips of gluteus muscle were used, and with the broader strips the problem would be only more complex, for in each instance the transplanted muscle must become indifferent tissue without doubt. The questions which Dr. Rixford has asked are naturally the ones that would come to any one's mind, as to what part of the nervous system was controlling this new sphincter, if it could become a competent tissue. With a sphincter which is to a certain extent competent, extending around the greater part of the anal opening, there should in time come to be a certain control and if infection is not present, it should be possible to repair the sphincter so as to make a complete circular muscle under ordinary circumstances. I am saying this in spite of the fact that I have in my wards now a man in whom I am probably failing to accomplish this, but in the general run of cases this should be a possible thing to do. The statement of Dr. Zobel that in cases of spinal anesthesia manipulation of the anal canal is possible without dilatation of the sphincter is new to me. I have dissected out a number of fistulae and made immediate suture closing the whole of the fistulous tract and getting primary union all the way through from the mucous surface to the base of the fistula, including the muscle, with a good deal of satisfaction. This has always been done under general anesthesia and after a careful, pretty complete stretching of the sphincter. It would be flying in the face of Nature to suture a sphincter without having rendered it parietic by overstretching, it would be inviting spasmodic action which is what we wish to avoid for a few days. I should like to see Dr. Zobel do that some time, because the method would be attractive if it could be done, but I am inclined to be a little bit skeptical about it. The plan which Dr. Newman has described this evening is tempting also to me, for this little girl whom I spoke of has since been subjected to an operation by me and the anus put into its proper place so that she has rectum opening in the integument behind the vaginal opening; she has not, however, a sphincter and has to be very careful about attention to herself and wear a napkin, and when she finds a movement is coming she has to go to the toilet without delay; her condition has been made more tolerable by a pretty firm circle of cicatricial tissue which has always a tendency to contract and has to be kept dilated, and this she does herself with a little rubber bougie.

Samuel J. Hunkin: While I know nothing about the exact subject of the paper, still the discussion has been exceedingly interesting to me, and if it is permitted, would like to speak regarding some points in which I am at variance with two of the speakers. I do not at all agree with Dr. Sherman that the mere suturing of a muscle is likely to provoke spasm in the muscle, if the muscle was not previously paralyzed. I cut and suture muscles rather frequently and spasm is not provoked afterwards if rest is maintained, and I think the trouble in this special area is not the suturing of the muscle, but the failure later to secure rest. Dr. Rixford objects to the procedure on the ground that the band of gluteus would only contract when the man attempted to move his hip, that is, the man in order to "shut his rectum off," would have to think "outwards rotation of the hip." I am inclined to think from my experience with other muscles, that the muscles will learn to contract when its need is felt, and if it goes around the rectum in two ways as I understand it does, it will single out its function and control the bowels better and better as time goes. Of course Dr. Rixford may have to single out his muscles as he wills and moves and even call each by name, but the most of us do not have to do this, but we will the effect and the muscles do the rest.

Alfred Newman: Gentlemen, I feel highly flattered. If I had no other justification for the operation, the discussion that I have provoked would fully justify it. As I said in my paper, my justification for the operation was the infection. I said at the time that it was a case that ordinarily could have been easily treated by dissecting out the scar and bringing the ends of the sphincter together; and that in the after treatment, in order to avoid infection, I kept the patient on his face so that the pus would not run over the wound. If I had not done this operation I would simply have gotten another huge ischio rectal abscess and after that would have had the proper amount of justification to suit everybody. Referring to Dr. Rixford's questions, in regard to the function of this muscle I said at the time "Marvelous to relate the operation was a success." I had the same misgivings that Dr. Rixford expresses and I said one of my excuses for bringing it forward was the fact that the operation was comparatively unknown and that I performed the operation only because it had succeeded before. I realized that the chances were more than even that it would be a failure and I think I brought it out in my paper. As to whether the artificial sphincter functionates by itself, along with the rest of the gluteus muscle or whether the sphincteric action is due to the contracting gluteus pulling on the muscle strips, which have been reduced to the consistency of fibrous cords, the chances in general would seem to favor the latter possibility. Yet it is possible that nerve filaments that run to the coccygeal insertion of the gluteus maximus, I have frequently seen such in the course of my dissection of this region,—may suffice to enervate the muscle strips. They appear to have done so in the present case. How do I know that it is not the sphincter that is doing all the contracting? In the first place whenever the patient narrows his anal orifice you can see the inner edges of the glutei contract; in the second place, you can feel the muscle strips contract on either side and this without the synchronous contraction of the rest of the gluteus maximus; and thirdly, in a case of my knowledge a one-sided operation was done, with the object of bridging over the hiatus in the sphincter with a muscle flap without success. Of course there is a good piece of the sphincter remaining and this helps along. It is observed that the anal canal is very long; this is due to the fact that I put this artificial sphincter proximal to the external sphincter; this has lengthened the canal. When the canal is once dilated, the patient evidently has little power of contraction. I also stated that I did not get a true sphincter here. I got what I tried to get,—a good functional result.

## SOCIETY REPORTS

### ALAMEDA COUNTY.

The annual meeting of the Alameda County Medical Association was held Tuesday evening, December 20, 1911. The program was as follows:

- 1—Immunity, and How Nature Cures Disease, by Dr. S. H. Buteau.
- 2—Reports of the Out-Going Officers.
- 3—Report of the Result of the Election by the Tellers.
- 4—Induction into Office of the Incoming Officers.
- 5—Refreshment and a Social Hour.

Dr. Buteau's paper was discussed by Drs. Briggs, Emerson, Rowell, Clow, Archibald and Dukes.

The reports of the out-going officers showed that the Society had made constant progress throughout the year just ended.

Officers elected: Dr. A. S. Kelly, president; Dr. W. A. Clark, vice-president; Dr. Dudley Smith, treasurer; Dr. Pauline S. Nusbaumer, secretary;

councilors—Dr. W. O. Smith, Dr. N. H. Chamberlain, Dr. M. L. Emerson, Dr. David Hadden, Dr. Alvin Powell, Dr. J. Maher. Delegates—Dr. M. L. Emerson was elected to fill out the unexpired term of Dr. S. H. Buteau, resigned; 1911-1912, Dr. C. A. Dukes, Dr. Daniel Crosby, Dr. H. G. Thomas, Dr. Pauline S. Nusbaumer. Alternates (1911)—Dr. A. S. Kelly, Dr. Dudley Smith, Dr. J. L. Milton, Dr. G. G. Reinle, Dr. J. L. Lohse, Dr. J. K. Hamilton, Dr. W. H. Erwin, Dr. A. F. Gillihan.

PAULINE S. NUSBAUMER, Secretary.

#### BUTTE COUNTY.

The Butte County Medical Society held its regular meeting January 10th at the office of Dr. Gatchell. The following officers were elected: President, Dr. D. H. Moulton; vice-president, Dr. C. L. Browning; secretary-treasurer, Dr. Ella F. Gatchell; censor, Dr. N. T. Enloe; delegate to the State Society, Dr. O. Stansbury; alternate, Dr. C. L. Browning.

Dr. Willard B. Johnson was re-elected to membership.

Dr. James H. Parkinson, from Sacramento, addressed the meeting relative to matters of health, sanitation, organization and other subjects of interest to the medical profession.

ELLA F. GATCHELL, Secretary.

#### SAN JOAQUIN COUNTY.

At the annual meeting of the San Joaquin County Medical Society held at the office of Dr. B. F. Walker, the following officers were elected: B. F. Walker, president; Hudson Smythe, first vice-president; Mary Taylor, second vice-president; G. P. Hull, secretary; delegates to the State Society, A. W. Hoi-sholt and B. J. Powell; alternates, J. P. Hull and B. F. Walker.

The Board of Directors presented the following resolution:

"Resolved, That it be the sense of the Board that the San Joaquin County Medical Society shall discontinue all lodge or association contract practice and that any member of the Society who has such practice be given three months' notice to discontinue same, and if such member decline to discontinue such practice, he shall be suspended from the Society."

The same was adopted as read and shows the stand taken by the physicians of Stockton and San Joaquin County regarding cut-rate practice.

B. F. WALKER, Secretary.

#### SONOMA COUNTY.

The Sonoma County Medical Society held a most agreeable and interesting meeting in Santa Rosa, Thursday evening, January 5, at the Hotel Overton. Dr. Bogle presented a paper on Reorganization of the State Board of Health. Dr. C. F. Grant was appointed chairman of the program committee for the February meeting, with Drs. F. E. Sahler of Geyserville, and J. Temple of Santa Rosa, as assistants. The meeting will be held in Cloverdale. Thursday night's meeting closed with a sumptuous banquet, with the new president, Dr. J. W. Seawell, as host.

JACKSON TEMPLE, Secretary.

#### ACADEMY OF MEDICINE.

The regular meeting of the California Academy of Medicine was held in the library of the San Francisco County Medical Society, on Thursday, December 22, 1910. The scientific program was as follows:

1. Demonstration of Specimen, T. C. McCleave.
2. Exhibitions of Sections Demonstrating Pathological Conditions of the Spinal Cord, M. B. Lennon.

3. Report of Three Cases of Carcinoma Developing at the Site of Injection of Autogenous Cancer Vaccine, W. B. Coffey and H. W. Gibbons.

Discussed by Drs. Ryfkogel, Stillman, Rush, Tait, Coffey.

Election of officers for the year 1911: President, George E. Ebright; vice-president, August J. Lartigau; secretary, Ernest C. Dickson; treasurer, Henry J. Kreutzman. Meeting adjourned.

#### BOOK REVIEWS

**The Practice of Surgery.** By James Gregory Mumford, M. D. W. B. Saunders & Co., Phila. and London. 1910. Cloth, \$7.00 net.

Most particularly worthy of notice are the chapters on Minor Surgery. The discursive form in which they are cast make them lively reading; their brilliancy and conviction are almost classic. The whole book is not so uniformly good. It is true that Mumford has forestalled much criticism by a sentence of his preface, which says, "As a general surgeon I may not attempt to deal comprehensively, accurately and scholarly with all branches of surgery," and that he announces his intention of taking up surgical ailments in an unconventional order—one to be determined by their interest and importance. Yet there are some frequently encountered and important diseases which he discusses with such brevity as to impair the value of the book to students. The paragraphs on treatment are almost uniformly explicit and good; that the author has laid down his personal standpoint in them is of decided advantage to the work. The diagnosis and symptomatology are less well explained. It is to the general practitioner that the book will most strongly appeal; he will find here a guide based upon the experience of a man of recognized worth that will scarcely permit him to go astray in the treatment of his cases. The book is less adapted to the student. The unconventional arrangement makes its use difficult; the elaboration of some chapters and the meagerness of others, the little stress laid on pathology and diagnosis make one disinclined to recommend it as a textbook. The illustrations are fair on the whole, those illustrating operative procedures good, the ones of pathological conditions less apt.

L. E.

**A Treatise on Diseases of the Eye.** By John Elmer Weeks, M. D., Professor of Ophthalmology in the University and Bellevue Hospital Medical College (Medical Department of New York University.) The Lea & Febiger, New York and Philadelphia, 1910.

Weeks has given us a book which proves a trustworthy guide for the student and general practitioner.

The development of the eye is concisely considered as is the anatomy. Then in order come general optical principles and routine examinations, followed by diseases of the various tunics taken in anatomical order.

In these various chapters nothing original is brought forth although the latest views as accepted are tersely given.



A chapter is devoted to the relation of the throat, nose and the accessory sinuses to the eye which is rather sparsely written. The operations are considered under a separate heading and asepsis, anesthesia and technic get full attention. The author is partial to the operations as practiced in the New York Eye and Ear Infirmary.

Under special remedies, serum therapy, X-ray and Bier's hyperemia are well considered and I might mention that the chapter on the localization of foreign bodies by Dr. George S. Dixon is one of the best in the volume.

I am glad to see attention paid to pathological diagnosis and technic in eye work as Weeks devotes a whole chapter to this subject. He and Webster Fox seem to be pioneers in this line in single volume text books, published in America.

All in all this is a reliable work and can be recommended to those who do not care to go more deeply into the subject. The printing, illustrations and paper are good.

W. S. F.

**"Manual of Clinical Pathology for the General Medical Practitioner."** By Richard Weiss, M. A., Ph. D., F. C. S., in collaboration with George Herschell, M. D., London, and Andrew Charles, F. R. C. S., Dublin. Published by J. & A. Churchill, London, 1910.

We know no work that for accuracy, detail and simplicity and after all—compactness, can compete with this little pocket edition on clinical pathology. The busy physician finds it impossible to remember the technic of all the various tests which he should employ in his daily routine, but which, unfortunately, he does not often perform, because in the usual treatises, the descriptions frequently confuse him and give him an idea that the tests are quite complicated or difficult. The author has included examinations of the urine, gastric contents, feces and blood with the serum tests for syphilis, tuberculosis and typhoid. The book is eminently practical and will fill a long felt want.

R. B.

#### The Modern View of Syphilis and Its Treatment.

By Gustav Baar, M. D. Published by D. Appleton & Co., New York, 1910.

This small book is a plea for the more frequent use of the Wasserman test. No mention is made of the recent modifications of said test.

Brief case histories are given of various syphilitic visceral lesions. As an appendix the author has inserted a description of Fournier's chronic intermittent plan of treatment by mercury and iodide. No mention is made of Ehrlich's work.

#### Hookworm Disease.—Etiology, Pathology, Diagnosis, Prognosis, Prophylaxis, and Treatment.

By George Dock, A. M., M. D., Professor of the Theory and Practice of Medicine, Medical Department Tulane University of Louisiana, N. O., and Charles C. Bass, M. D., Instructor of Clinical Medicine, Medical Department Tulane University of Louisiana, N. O.; 250 pages, royal octavo, with 49 special engravings and colored plate; price \$2.50. C. V. Mosby Company, St. Louis.

A very comprehensive work on the subject with special reference to its aspects in the Southern United States.

The great importance of this disease and its wide distribution makes it necessary for all medical men to be more or less familiar with it, and a perusal of this work will certainly be of advantage. The book should prove of value to those who are specially interested in the subject.

H. G.

#### DR. MILLICAN GOES TO THE LANCET.

Dr. Kenneth W. Millican, who was for some time a resident in California and was later connected with the Journal of the A. M. A., sailed on the 24th November for England where he is to be connected with the London Lancet. Dr. Millican made a great many friends while he was in this state and it is certain that they will wish him the very best of success in his new position.

#### BOARD OF EXAMINERS, DECEMBER SESSION.

School of Medicine.	Passed.		Date of Graduation.	Percentage.
Calif. Eclec. Med. Coll., L. A., Cal.....			5, 19, 1910	78.3*
Coll. of P. & S., S. F., Cal.....			6, 6, 1907	80.6*
Univ. of Cal., Coll. of Med., L. A. Dept., Cal.....			6, 2, 1910	83.2
Univ. of So. Cal., Coll. of Med., Cal.....			6, 17, 1909	88.0
Univ. of So. Cal., Coll. of Med., Cal.....			6, 17, 1909	87.1
Univ. of So. Cal., Coll. of Med., Cal.....			6, 16, 1910	84.4
Univ. of So. Cal., Coll. of Med., Cal.....			6, 14, 1906	75.2*
Am. Med. Missionary Coll., Ill.....			6, 15, 1909	83.3
Am. Med. Missionary Coll., Ill.....			6, 16, 1902	76.9
Cleveland Med. Coll., Ohio.....			—, —, 1896	87.0
Cleveland Homeo. Med. Coll., Ohio.....		82.0 plus 5	4, 30, 1903	81.9*
Columbia University, Coll. P. & S., N. Y.....			6, 1, 1910	89.9
Columbia University, Coll. P. & S., N. Y.....			6, 13, 1894	84.4
Columbia University, Coll. P. & S., N. Y.....		79.4 plus 5	6, 1, 1910	84.3
Denver Homeo. Coll., Colo.....			4, 23, 1901	78.7
Detroit Coll. of Med., Mich.....			5, 9, 1901	76.2
Geo. Washington Univ., D. C.....			6, 8, 1910	81.9
Hahnemann Med. Coll., Phila., Pa.....			6, 2, 1910	75.5*
Hamlin Univ., Coll. M. & S. Coll., Minn.....			6, 5, 1907	76.5*
Harvard Med. Sch., Mass.....			6, 24, 1908	80.0
Jefferson Med. Coll., Pa.....			3, 29, 1884	86.4**
McGill Med. Faculty, Montreal, Can.....			6, —, 1904	75.0
Med. Coll. of Indianapolis, Ind.....			4, 17, 1903	77.3*
N. W. Univ. Med. Sch., Ill.....			6, 16, 1904	80.6
N. Y. Med. Coll. & Hosp. for Women, N. Y.....			4, 19, 1892	82.9
Omaha Med. Coll., Nebr.....			4, —, 1902	80.9**
Pulte Med. Coll., Ohio.....			3, 14, 1892	75.1 plus 5
Rush Med. Coll., Ill.....			6, 1, 1909	87.9
Rush Med. Coll., Ill.....			6, 21, 1900	84.0 plus 5
Rush Med. Coll., Ill.....			6, 15, 1904	83.2
Starling Med. Coll., Ohio.....			4, 12, 1900	77.5 plus 5
State Univ. of Iowa, Med. Dept.....			3, 4, 1885	70.1 plus 10
State Univ. of Iowa, Med. Dept.....			6, 16, 1909	80.1
				79.6

Syracuse Univ., Coll. of Med., N. Y.	6, 10, 1903	75.1*
Tufts Coll. Med. Sch., Mass.	7, 15, 1903	81.3
Univ. of Arkansas, Med. Dept.	5, —, 1908	75.5
Univ. of Buffalo, N. Y.	6, 4, 1902	77.4
Univ. of Ill., Coll. P. & S., Chi., Ill.	6, 7, 1910	83.6
Univ. of Ill., Coll. P. & S., Chi., Ill.	6, 6, 1905	83.3
Univ. of Ill., Coll. P. & S., Chi., Ill.	4, 20, 1897	73.1 plus 5 78.1
Univ. of Ill., Coll. P. & S., Chi., Ill.	6, 5, 1909	76.3
Univ. Med. Coll. of Kans. City, Mo.	4, 7, 1905	77.4*
Univ. of Mich.	11, 26, 1901	87.4
Univ. of Mich.	7, 1, 1897	81.4 plus 5 86.4
Univ. of Mich.	6, —, 1892	70.7 plus 5 75.7***

## Failed.

Coll. of P. & S., Los Angeles, Cal.	6, 26, 1908	71.0
Coll. of P. & S., Los Angeles, Cal.	6, 6, 1906	67.7***
Coll. of P. & S., San Francisco, Cal.	5, 19, 1910	73.4*
Coll. of P. & S., San Francisco, Cal.	5, 19, 1909	73.2*
Coll. of P. & S., San Francisco, Cal.	5, 17, 1906	66.7
Cooper Med. Coll., S. F., Cal.	5, 5, 1910	69.0*
Cooper Med. Coll., S. F., Cal.	5, 5, 1910	64.9*
Coll. P. & S., Baltimore, Md.	—, —, 1888	54.6 plus 10 64.6
Eclectic Med. Coll., Cin., Ohio	—, —, 1885	66.2 plus 10 76.2
Geo. Washington Univ., D. C.	6, 6, 1906	70.9
Hahnemann Med. Coll., Chi., Ill.	2, 4, 1876	34.0 plus 15 49.0
Ky. School of Med., Ky.	7, 13, 1906	66.1*
Louisville Med. Coll., Ky.	3, 8, 1895	74.1 plus 5 79.1
Med. Coll. of Ohio	3, 8, 1883	69.9 plus 10 79.9
Miami Med. Coll., O.	6, 1, 1908	71.8
Pulse Med. Coll., Ohio	3, 27, 1894	51.5 plus 5 56.5
Rush Med. Coll., Ill.	2, 20, 1883	65.0 plus 10 75.0
Rush Med. Coll., Ill.	6, 18, 1902	70.9
Syracuse Coll. of Med., N. Y.	6, 12, 1893	70.8 plus 5 75.8
Univ. of Louisville, Med. Dept., Ky.	3, 14, 1892	68.4 plus 5 73.4*
Univ. of Nashville, Tenn.	3, 27, 1902	71.7
Western Reserve Univ., Ohio	3, —, 1879	65.3 plus 15 80.3

## Osteopathy—Passed.

Am. Sch. of Osteopathy, Mo.	5, 31, 1910	85.7
L. A. Coll. of Osteopathy, Cal.	6, 2, 1910	82.2
L. A. Coll. of Osteopathy, Cal.	1, 27, 1910	79.4*
L. A. Coll. of Osteopathy, Cal.	6, 2, 1910	77.7*
L. A. Coll. of Osteopathy, Cal.	6, 3, 1909	77.5**
L. A. Coll. of Osteopathy, Cal.	6, 3, 1909	76.9*
L. A. Coll. of Osteopathy, Cal.	6, 2, 1910	76.6*
L. A. Coll. of Osteopathy, Cal.	6, 2, 1910	76.5
L. A. Coll. of Osteopathy, Cal.	1, 27, 1910	75.0*
Northern Inst. of Osteop., Minn.	6, 1, 1897	73.0 plus 5 78.0***
Pac. Coll. of Osteopathy, Cal.	2, 3, 1910	82.5
Pac. Coll. of Osteopathy, Cal.	2, 3, 1910	79.9**
Pac. Coll. of Osteopathy, Cal.	6, 23, 1910	79.5
Pac. Coll. of Osteopathy, Cal.	6, 23, 1910	78.7
Pac. Coll. of Osteopathy, Cal.	5, 23, 1910	76.0

## Osteopathy—Failed.

L. A. Coll. of Osteopathy, Cal.	6, 2, 1910	72.7
L. A. Coll. of Osteopathy, Cal.	5, 2, 1910	72.3*
L. A. Coll. of Osteopathy, Cal.	1, 27, 1910	71.8
L. A. Coll. of Osteopathy, Cal.	5, 3, 1909	70.6**
L. A. Coll. of Osteopathy, Cal.	5, 2, 1910	64.9
L. A. Coll. of Osteopathy, Cal.	1, 27, 1910	59.0
L. A. Coll. of Osteopathy, Cal.	1, 27, 1910	56.2
Pacific Coll. Osteopathy, Cal.	5, 23, 1910	71.5
Pacific Coll. Osteopathy, Cal.	6, 23, 1910	70.9
Pacific Coll. Osteopathy, Cal.	6, 23, 1910	67.0
Pacific Coll. Osteopathy, Cal.	6, 23, 1910	63.7
Pacific Coll. Osteopathy, Cal.	6, 23, 1910	56.0
S. S. Still Coll. Osteop., Iowa	1, —, 1905	67.4

## New Licentiatees.

Wm. E. Allen, L. L. Andrews, Wm. Bartosh, A. E. Boland, F. P. Bowen, Douglas Brown, E. M. Brown, M. L. Burns, R. O. Butterfield, M. F. Carmichael, W. H. Chapman, A. T. Charlton, E. Collar, M. L. A. Colloran, B. J. W. Comstock, E. M. Cook, M. S. Croswell, M. L. Davie, A. R. Elder, E. S. Fogg, A. Gottlieb, R. W. Graham, A. H. Hall, A. E. Hansen, Lasher Hart, L. E. Heiges, G. S. Hollister, John Janss, Walter C. Klein, S. L. H. Lamb, B. E. Loehr, W. M. McMullen, E. C. Mann, R. J. Mapes, H. F. Markolf, O. A. F. Moore, Jas. T. Murray, Oran Newton, B. Palmer, L. H. Peters, C. E. Phelps, G. L. Prentice, W. A. Preston, H. C. Reynolds, R. W. Reynolds, W. M. Robinson, T. L. Rogers, W. T. Rothwell, L. N. Sickler, W. E. Simpson, B. K. Skinner, M. A. Stephenson, E. V. Sutton, P. E. Swift, J. W. Utter, G. S. Wells, E. A. S. Werner, O. G. Wicherski, E. D. Wilcox, A. J. Wilkinson.

\* Taken before.

### OPPOSITION TO OUR DEFENSE PLAN.

The agents of at least one commercial company, we are told on good authority, are spreading the startling information throughout the state that there are so many malpractice suits now in actual progress that to pay for their defense would take several times the amount of money the State Medical Society will raise. If this were true it would mean the premature end of our defense plan, but these agents tell only part of the truth.

The expense to the individual of defending a malpractice suit is the amount which the attorney thinks he can collect, and this is the expense quoted by these agents. If the commercial companies did not have the same advantages we do as a Society, they would be bankrupt. But banded together as we are, our Society can and does pay a leading law firm a fixed annual retainer to brief the law and supervise the work of the local attorneys. This firm has all court decisions relating to medical malpractice always ready to be used in any court in the state. It will readily be seen that this removes the item of greatest cost in defending such suits, and leaves simply court costs and local attorneys' fees. All local attorneys are engaged by our general attorneys and paid regular per diem fees, rather than the inflated ones which a successful lawyer might think he could collect from his happy client. Our by-laws provide that if in any year the defense fund becomes exhausted, the Council may loan sufficient funds from the treasury of the State Society, thus giving us additional resources.

Now why are the commercial companies trying to foster doubts as to the efficiency of our plan? They are making a business of doing the same work, in the same way we are now doing it, and for profit, charging ten to fifteen times as much for the services. If mutual plans prove successful a large slice will be cut out of their annual "melon." This same state of affairs obtains in some fifteen or twenty states where the State Medical Society is successfully defending its members from civil malpractice in its various forms.

One can readily see that with their field being invaded in such a wholesale manner, the Commercial Medical Defense Companies must either stop the progress of this move, or go into other business soon. Fifteen or twenty states being removed from their territory is alarming, and these companies may be expected to hold on to every risk they have, and not to be too particular about the method used.

It is hopeful that our members will watch the working of this plan of our State Society for another year or two at least, before they listen seriously to all the cries of "wolf," especially when so many other states had carried this plan to a successful issue before we began it, and especially when it "sounds so good" that nearly twenty states are with us in this newest activity.

Almost 75 per cent of the money collected for Medical Defense in Michigan this first year remains in the treasury as a sinking fund. Does this look like bankruptcy?—Journal of the Michigan State Medical Society.

### NEW HOSPITAL FOR POST-GRADUATE MEDICAL SCHOOL.

Work has been commenced on the new building for the New York Post-Graduate Medical School, which is to cost \$600,000, making the institution's capacity about 400 beds. It is to be twelve stories in height and will have several novel features. The building will include a tower, with rooms for fifty private patients, and on the roof of the tower will be a pavilion for open-air treatment. There is also to be a loggia, open to the street front and to the rear, on three floors, where beds can be kept permanently with exposure to the air. In addition, there will be three long balconies to the eastward, and the entire top of the main building, seven stories high, with the exception of the space taken up by the tower, will be occupied by a roof garden, so that it can be seen that unusual provision will be made for giving the patients abundance of fresh air. There are to be eight operating rooms, 18 by 20 feet in size, but no large amphitheater for operations, as it is believed that the best results can be obtained by having small numbers of students in proximity to the operating table. There will, naturally, be well-equipped laboratories for research work, and special attention will be paid to the investigation and teaching of tropical diseases. After the new building is completed the present quarters of the Post-Graduate, adjoining, will be rearranged, and the nurses' home in connection with the institution is to be rebuilt at a cost of \$100,000.

#### New Members.

Brusco, H. D., San Francisco.  
Mervy, E. C., San Francisco.  
Nahman, A. H., San Francisco.  
Eastland, Orin, San Francisco.  
Johnson, W. B., Chico.  
Tupper, R. B., San Francisco.  
Mugler, F. R., San Francisco.  
Ochsner, R. L., San Francisco.  
Leavitt, E. I., San Francisco.  
Dawson, C. W., San Francisco.  
Taylor, C. E., San Francisco.  
Craig, L. A., San Francisco.  
O'Neal, R. Mc W., San Francisco.  
Graham, H. B., San Francisco.  
Stone, B., San Francisco.  
Hartman, G. W., San Francisco.  
Thomas, J. B., Santa Cruz.

#### Retired.

Flint, Wm. H., Santa Barbara.

#### Deaths.

Spurgeon, Franklin, Chico.  
Wheat, J. M., Redlands.  
Gallimore, Elizabeth, San Jose.  
Frost, James, Sacramento.  
Anderson, Charles Lewis, Santa Cruz.  
Cowan, Charles S., Fort Jones.  
Willis, George O., Grass Valley.  
De Vinny, C. L., Santa Cruz.  
Hattie, Granger Hunt, native of Calais, Maine; pioneer of San Francisco since 1853, died December 25, 1910. Mother of Dr. Reuben H. Hunt of this city.